ESTABLISHED 1819.

THE AMERICAN FARMER AND RURAL REGISTER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

NEW SERIES.] APRIL, 1872. [VOL. I—No. 4.

PUBLISHED BY

SAML. SANDS & SON,

No. 9 North street, Baltimore, Md.

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FOR SPRING CROPS OF 1872.

[ESTABLISHED 1848.]

To the FARMERS and PLANTERS of Maryland and the South generally.

Horner's Maryland SUPER-PHOSPHATE.

(We court the Chemist's inquiry.)

After 23 years' experience in the Fertilizing business, and after establishing a wide reputation for the purity and excellence of his Bone Dust, the subscriber has been induced to prepare a Phosphate suitable to the requirements and every way worthy the attention of the Southern Farmer.

The "MARYLAND" is a rejuvenator and permanent improver of the soil. It stimulates equal to Peruvian Guano, and sustains equal to Bone, being composed almost entirely of these ingredients, with a very liberal percentage of Potash in the residuum. There is no adulterater nor inferior article used—every part of the Phosphate being of essential benefit to the land. Neither pains nor expense have been spared in its preparation, and we claim for it the greatest benefit to the farmer from the smallest outlay.

For Cotton, Wheat and Corn, and as a general stimulant and aliment for worn and impoverished land, there can be nothing superior. It is warranted to run as high in Ammonia, and higher in Bone Phosphate, than any other fertilizer in the market.

Price $50 per ton, in new bags. No charge for delivery.

JOSHUA HORNER, Jr.,

Manufacturer and General Commission Merchant. Office and Warehouse, 54 S. Gay street. General Warehouse, corner Chew and Stirling streets, BALTIMORE, MD.

Bone Dust $45, Bone, Meal $50, Dissolved Bone $42,

Our own manufacture, in new bags; Eastern and Western Bone Dust, $35. Peruvian Guano delivered from Peruvian Government Warehouse at the lowest rates. No charge for delivery.

jan-tf. **JOSHUA HORNER, Jr.**

THE GREAT SOUTHERN

TOBACCO SUSTAIN

AND

LAND RENEWER.

This Sustain is a specific restorer of the exhausted properties of impoverished and overstrained land.

It *gives vigor to the young plant*, promotes its *rapid growth*, and insures, in the matured crop, a *thickened, heavy leaf*.

It is especially adapted to worn land, and will generously repay the *cost* of its outlay in the quality and quantity of the *Tobacco Crop*, besides permanently improving the soil and raising it to its virgin standard.

Three eminent Chemists say it has all the prerequisites of a first-class Fertilizer.

It will be its own best advocate with its patrons.

$50 PER TON. NO CHARGE FOR DELIVERY.

JOSHUA HORNER, Jr.,

54 S. Gay street,

jan-tf. **BALTIMORE, MD.**

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VOL. I.—No. 4.] APRIL, 1872. [NEW SERIES.

Fruit Growing and Fruit Preserving.

Notwithstanding the immense quantities of fruit which are being shipped yearly from Delaware, Maryland and Virginia to the Northern markets, it is evident that this great business is really only yet in its infancy. The rapid extension and consolidation of transportation lines, offering unparalleled facilities for reaching distant markets, must necessarily have the effect of largely stimulating in the South the raising both of fruits and vegetables for Northern shipment, and prove a source of great revenue to those who are enabled to engage in it. It is a recognized fact in Boston, New York and Philadelphia, that very soon their truckers and gardeners will be largely "run out" by the competition they will meet from growers in the South, who can put their products in market weeks earlier than they can be raised near those cities. In Baltimore, for instance, last spring, there were green peas in the market thirty days earlier than they were ever known before—the first supply coming from Florida, followed in succession by crops raised near Savannah, Charleston, Wilmington and Norfolk. There is no reason why many vegetables and fruits should not be raised and marketed in this way. Peter Henderson, widely known as an extensive and successful market gardener near New York, expresses his surprise that the business is not more largely engaged in, pointing out the advantages which growers in the South would enjoy, and the ease of forwarding the productions of their gardens, especially those which are not liable to injury by transportation. What is true of vegetables is equally true of fruits, and the immense extent of the peach trade shows the practicability of such operations. The transportation companies, finding so large a source of revenue in this traffic, are glad to make arrangements such as insure certain and speedy conveyance for all the fruit offering, and with a view to this trade new roads are constantly being projected and built.

We do not recommend, of course, any large ventures in uncertain schemes. The people of the South are in no condition for this, and the owners of the soil are generally an educated and reading class, and too sensible, therefore, to be drawn into undertakings the success of which is doubtful; but there can be no objections to experiments on a moderate scale which will demonstrate the feasibility of the system of fruit culture and marketing we are now considering. When individuals are not possessed of means sufficient for this, combinations can be entered into which may be able to accomplish by co-operation what private means cannot effect. An illustration of what may be done is found in the expressed belief of Mr. Saunders, the distinguished horticulturist, now in charge of the Government gardens at Washington, that Virginia is to be the great *grape*-growing region of this country as soon as its capabilities and advantages of soil and climate are understood and appreciated; and another, in the success of Mr. Leighton, a fruit-grower near Norfolk, whose *pears*, unsurpassed for beauty, size and flavor, are the wonder of pomologists, and are marketed and known all over the North.

There are sections of country, however, not yet possessing the facilities for transportation to market, which we have referred to above; and there are seasons when, from the over-abundance of certain crops, it is not profitable to market them. To meet and overcome these conditions, the preservation of fresh fruits is looked to.

In our February issue we gave an account of the very large peach orchard of Mr. Harris, in this State, the fruit from which is all "canned" on the place, and in our last we also noticed the interest which was manifested at the Pennsylvania Fruit Growers' Convention in the preservation of fruit by means of Alden's "*raisining*" process, it being hopefully regarded as one of the possible means of extricating growers from their dependence on middle-men and their liability to loss by sudden fluctuations in the markets; the objection to the cost of the apparatus being answered by the suggestion, that in the midst of fruit-growing districts capitalists would erect such establishments and "raisin" fruit brought to them, exacting so much "toll," as is usual with grist mills.

Our valued friend, *Gen. Tench Tilghman*, of Talbot Co., Md., has furnished us a description of the Alden plan, which we give below, and which will be read, we think, with great interest:

To the Editors of the American Farmer:

The culture of fruits and vegetables has become one of the most valuable agricultural interests, and I am glad to see that you are alive to its importance. Like other crops, however, they have suffered from fluctuations in the markets, ranging from fabulous profits to absolute loss to the producer. It is difficult, therefore, to overestimate the importance of a method by which these most perishable as well as most valuable crops can be preserved on the spot where they are grown, and by a simple and cheap process converted into a state in which they can be kept as easily as grain—transported at a trifling cost to any part of the world, and the natural flavor and appearance when cooked entirely preserved. This wonderful change is effected by the simple evaporation of the water, which in the tomato, for instance, is 96 per cent. It is truly wonderful that whilst a peach or apple dried in the ordinary way cooks brown, and has a peculiar flavor, the same article, when evaporated, retains when cooked the appearance and flavor of the fresh fruit, and commands readily double the price of the best dried fruit. It is difficult to overestimate the value of the sweet potato crop alone, with the whole world thus opened to it as a market. The best proof of the value of this method is the great success of all the factories that have been started, viz: Trenton, N. J., Middletown and Milford, Del., and numerous others—its adoption by the Navy Department for apples, Irish potatoes, and all other articles used on shipboard. It is also largely used by merchant vessels, and will become an indispensable article in the assortment of every retail grocer as soon as a sufficient supply can be obtained. Factories should be started in every town to make a home market for the farmers, who might form companies themselves for this purpose. The following description, taken from the New York Tribune, will enable your readers to understand this interesting process:

"A building of rough boards, about 60 by 30 feet, two stories high, and costing some $800 or $1,000. Under a shed at one end is a boiler, such as is used to make steam for a 12-horse power engine. It consumes about half a tun of coal in a day of fourteen or sixteen hours, when 100 bushels of fruit are dried. The most of the steam is taken by a 2-inch pipe into the building where it passes into a very long coil of inch tube, such as is used in warming houses by steam. There are 3,000 feet of tube in this coil, and it is inclosed in a box or chamber only a little larger than the coil. Another pipe from the boiler takes a part of the steam to a small engine of two or three-horse power, which drives a fan wheel. This carries a strong current of fresh air to the coil, which immediately becomes heated to about 170° or 180°, and at this temperature is driven into the evaporating chamber. This is vertical, 15 feet high and 5x5 feet in dimensions. It is furnished with four endless chains that by a crank and ratchet-wheel move upward on the outside and down on the inside of the kiln. At intervals of from six to twelve inches on these chains are brackets on hinges that swing out as the chain moves over the top edge. These are to support the sieves, made with a light iron frame and a net work of tinned wire, on which the fruit is laid. One bushel can be spread on each sieve. It is laid on the brackets on the chains at the top of the kiln. Then a revolution of the crank lowers it six inches, and another set of brackets come over to receive the next sieve, and so on, the sieves traveling the whole distance down the kiln at stages of six inches at a time. A tray of pared and sliced fruit is made ready every nine minutes. The Temperature at the lower end of the kiln, where the air is just off the coil, is 175° sometimes falling to 165°. At the upper end, where the fruit is raw, the heat is about 120°. Thus from 50° to 60° of heat are absorbed in carrying off the moisture from the fruit. The quantity of fruit in a kiln 15 feet high, with one-bushel driers at intervals of six inches, is 30 bushels. At the bottom are two hands, who open a door in the kiln and take out a sieve of fruit as often as one is added at the top, that is, every nine minutes. A bushel of apples gives about ten pounds of the evaporated fruit.

Tomatoes yield four pounds to the bushel. Being de-hydrated so rapidly, and so soon after being pared, the fruit does not become discolored, but come out very white and clean, and, after being soaked, the slices look and taste like fresh pared fruit, and can be made into pies which any one would say were composed of fresh fruit. On account of the rapidity of the operation and the peculiar action of the heated air, fruit handled in this way does not become acid. A pie can be made with far less sugar than is used on fruit prepared in the old way. The evaporation begins before the fermenting process has time to start.

With such a boiler steam can be made for three or four coils with a little additional coal.

The expense of the building may be from $500 to $1,000. Boiler, engine, and coils cost about $3,000; the chains, lumber, and labor for the kilns, say $1,000; about $5,000 for a dry-house, ready for work. By using a portable farm-boiler and engine, and a house already standing, the cost may be lowered to less than $1,500. Such an establishment can begin in the Summer on berries, continue on peaches and tomatoes, and run on apples till Christmas. In the South the sweet-potato and the fig might make such a house more profitable than in an apple country. Mr. Alden gives the following statement, showing how he can evaporate a bushel of apples for a little less than 30 cents.

Cost of labor, and expense of preparing and evaporating the water from 600 bushels apples per week in one of "Alden's Fruit Evaporators:"

20 girls to core, slice, and put on and take off the fruit	$ 100
2 men, one engineer and two boys	43
3 tons coal, rent, and interest	31
Total	$ 174

producing 6,000 pounds at a cost of 2¾c. per pound.

The inventor claims that the blast of heated and rarified air works some chemical effect on fruit aside from merely carrying off the water—that the dextrine or incipient starch is thus converted into sugar, and great saving of saccharine matter is made in cookery. The process has been applied to strawberries, raspberries, spinach, asparagus, green corn, green peas, beans, and all other fruits and vegetables, and to the preservation of meats.

The most noteworthy feature of this process is the facility it gives for preserving *all* the fruit of a neighborhood, the wormy, misshapen and bruised apples as well as the fair and marketable. At present only the choice of our orchards is made available, the inferior fruit goes to pigs, or being converted to bad cider and applejack, comes to baser uses than swine can make of it."

With best wishes for your success, your old friend, T. TILGHMAN.

The *Alden Company* referred to above has an office in this city at No. 3 Holliday street. —*Eds. A. F.*

SOUTHERN LANDS.

It is our belief that capitalists who are seeking new avenues of investment can find no safer and more promising opportunities than are offered by the lands in the Southern Atlantic States, which are now so abundantly in the market. The changes wrought by the war, with the overturning of the old system of labor, have caused such a pressure upon the people that but few can discern any mode of escape from the necessities of their condition save by the sale of portions, at least, of their estates, and immense quantities of land, formerly worked with ease and success by a system of enforced labor, are now offered for sale in consequence of the inability of the owners to cultivate them.

Amongst these lands are included some of the very finest tracts in sections possessed of every advantage of soil and climate, unsurpassed in all the requisites for the enjoyment of life, and needing only the diffusion of the capital, found in excess elsewhere, to render them equal to any other portion of the globe. Much of this land is now to be had at figures which, in a few years, can scarcely fail to realize many hundred per cent. on the investment. Princely estates can now be bought, at really insignificant prices, in localities rendered famous by scenes of national interest and identified with the history and glory of the country from its original settlement to the close of the recent war, the residences of men distinguished in its annals as farmers, statesmen and warriors.

There are many sections within a few hours travel of the capital of the country where lands can be bought at prices not much higher than those in the remote West, and we have no hesitancy in directing to them the attention not only of capitalists, but of working men with small means. To the former, they offer opportunities of investment and sure returns such as, we believe, are scarcely anywhere equalled; to the latter, they offer homes within the pale of civilization, contiguous to the seaboard cities, within easy reach of the best markets, readily improved, of genial climate, and certain of appreciating in value.

Never in this country were such bargains offered as are now to be had in these lands, and if any from the North hesitate to enter into negotiations looking to migration to them, from an apprehension that their pres-

ence would be distasteful to the old residents, we can with the fullest confidence assure them that there is no part of the whole country more orderly and more inviting in all respects to settlers who have the instincts and habits of civilization, and are disposed to obey the golden rule of "doing unto others as they would have others do unto them." For men of limited means—practical farmers—undoubtedly better prospects are opened in the South than are offered in the West. Climate, soil, churches, schools, mills, settled neighborhoods, easy access to market, all speak in favor of the Atlantic slope. The records of the General Land Office bear testimony that one-half of the homestead entries made in the West are abandoned and the land entered by others, this sometimes taking place three or four times before a person takes it who holds it permanently. This fact is, of itself, a striking illustration of how poor are the chances of success in those far off regions, where a deep soil is the only compensation for the want of the facilities for education, public worship, market for productions, and, in many cases, the lack not only of society, but of bare companionship.

It will give us great pleasure to facilitate buyers and sellers in their operations, and any descriptions of lands, giving their situation, improvements, means of access, and other particulars, which may be furnished us, will be kept on file for examination by those who may wish to locate in the South.

As illustrative of the subject—to which as opportunity offers and space allows we will again return—we annex some extracts from a letter of a correspondent in one of the tide-water counties of Virginia, which presents some of the attractive features of that section:

"We cultivate under many difficulties, for want of sufficient floating capital; but it is greatly preferable to any other plan we can adopt. I am anxious to sell about 2000 acres in this county, and another tract of near 600 acres in Hanover county, on the Pamunky, near the residence of Edmund Ruffin. These lands, from location and other circumstances, are of very great value, but I have been unable to sell them—860 acres are immediately on the Potomac, having more than a mile of river front, and a beautiful beach, and the soil is fine for fruit, vegetables, grain, &c. Why should not the shores of the Potomac be in demand like those of the Hudson and the Rhine, for villas? There is not a more beautiful region in the world, and any spot from Moreman's creek to Wyocomico, is associated with some legend, that, illustrated by the genius of an Irving, would be far more interesting than the romantic incidents that he so gracefully describes. Here in this quiet nook the honest and judicious Monroe first saw the light. There, on that sequestered spot, the foremost man of all the world, commenced his being. Here in the shady groves of Chantilly, the Cicero of the revolution reposed himself in the intervals of public business. In this grand old mansion of massive structure, Light horse Harry, crowned with the laurels of his 'Southern campaign,' in which his gleaming sabre had flashed defiance into the very eyes of Tarlton and Cornwallis, in the intervals of war met the 'divine Matilda.' Here was born the brilliant biographer of Napoleon, and that great Captain of recent times, the equal of Napoleon in military achievements, his superior in all that constitutes true greatness of soul. Here, near this majestic oak, lived Richard Lee, of Lee Hall, the king's revenue officer—member of the first Virginia Convention, father of the House of Delegates of Va.; and amidst these majestic poplars stood the palace of Carter, one of the king's council. Here at Mt. Pleasant, was buried Richard Lee, the first of his name in Virginia, a man of great learning and accomplishments. I might fill pages with allusions to the memorable places in this renowned county—and I may say with truth, that there is now no spot of equal size and population that contains a greater number of refined, cultivated and estimable people."

The Value of Lucerne.

Of the soiling plants there is none better than *Lucerne*, and especially is it applicable to the South. It can be sown broadcast, or by the drill, and it is strange that it has not been more generally adopted in this country—but one improvement is apt to make way for another, and hence we find by the Utica (New York) *Herald*, which has taken such a leading part in the establishment of the Cheese and Butter Dairy system, that it is strongly recommended for soiling purposes in that State. It is a deep-rooting perennial plant, sending up numerous small and tall clover-like shoots, with blue or violet spikes of flowers, and will last for years when once well established. The New York *Independent*, speaking of it, says:

"The Alfalfa grass, over which the California farmers have gone into ecstacies, proves to be nothing else than the Lucerne Grass, well known in our Eastern States and cultivated for years on the European Continent. Its value, however, is not overrated. It is exceedingly well adapted to dairying purposes, as it will live through very dry weather and still yield very bountifully. It is said that ten acres of this Lucerne Grass will yield for soil-

ing purposes more forage than one hundred acres of ordinary pasture. During the first year of its growth it can be cut twice, and afterward three crops can be cut from the same land. It will live in very dry, sandy or gravelly soil, for it sends its roots deep into the subsoil for moisture, and when once it is well started it will stand prolonged periods of drought, and still help the land to grow richer year after year. Its value for our Middle and Southern States is even far ahead of clover."

We have, in years past, most urgently appealed to the farmers of the Middle and Southern States to introduce this plant. It has been grown in Maryland with great success, and yet it has been but poorly followed up. In our *Farmer*, in 1853–4, we proclaimed that, as a soiling provender, there was "*nothing superior to Lucerne*," and gave minute directions as to its cultivation.* It must, however, be sown upon rich and dry soil, with a good subsoil, or land made rich by heavy manuring—it requires potash, phosphate and sulphate of lime, and ammonia—and without these conditions it is vain to attempt its cultivation. The *Massachusetts Ploughman* says of this plant, that—

"It is much grown in Peru and Chili, and mown in both countries all the year round. It is also of unknown antiquity in old Spain, Italy and the South of France. Old Columella estimated Lucerne as the choicest of all fodder, because it lasted many years, and bore being cut down four, five, or six times a year. It enriches, he says, the land on which it grows, fattens the cattle fed with it, and is often a remedy for sick cattle. About three-quarters of an acre of it is, he thinks, abundantly sufficient to feed three horses during the whole year!

"The season most proper for sowing Lucerne is just as early in the spring as the soil can be made suitable. When sown broadcast, in England, the quantity of seed per acre is about fifteen pounds, and eight pounds if drilled in. The cutting it for soiling, or hay, or to be used in any other way, may be the same as for clover. In climates adapted to it, Lucerne frequently attains a sufficient growth for the scythe towards the end of April. It grows wild on the vast plains in Buenos Ayres, South America, and is there called "*Alfalfa*."

"It will be seen from this sketch that Lucerne is just such a plant as our stock needs before the pasture grasses are abundant, and again in midsummer, when they are cut off by drought."

* For the present we will give the following extract from the article alluded to, and will follow it up with some additions hereafter. The earlier sown the better, but it can be sown as late as 15th May in this latitude: "Prepare your lot by first manuring with two double-horse cart loads of strong manure per acre—as stable, cow-yard, or rich compost; plough it in fully 8 inches deep, subsoil 8 inches more; then harrow and roll until a perfectly fine tilth be obtained; this done, apply *broadcast* 50 bushels lime, or 50 bushels marl and 50 bushels ashes per acre; then sow two bushels oats per acre, harrow and cross-harrow them in. This done, sow on each acre 20 pounds Lucerne seed, lightly harrow the seed in with a light harrow, and roll. This will secure you a crop of at least 40 bushels oats per acre, and ensure you a lot of Lucerne that will last ten or fifteen years, yielding each year three good cuttings of this most excellent forage plant." Of course, subsequent dressings will be necessary, and will be pointed out, to keep up the powers of the soil.—*Eds. Amer. Farmer.*

Our Agricultural Calendar.

APRIL—FARM WORK.

The second spring month is upon us, and with it comes the most responsible and laborious duties of the whole year. The long winter which we have had has been peculiar, in that scarcely an intermission has been enjoyed of a single day in which actual work in the field could be attended to, that would save labor in the spring—and now, up to this time of writing (the 11th March,) we have had as severe weather in the first spring month, and as deep a snow, as was experienced during any of the winter months.—These circumstances consequently require that a greater effort will now be necessary—no delay can be tolerated—not a day lost—for it will imperil the success of the labors of the agriculturist for the whole season. We have on former occasions dilated upon this very point, and we will only refer thereto, as we have in this month's number such a variety of subjects to write about, the most of which cannot be deferred, as the season will measurably have passed by ere another month's issue will reach our readers. Therefore let us proceed to our work for the month.

Corn.—We hope our hints in the Feb. and March Nos. have been availed of, to prepare for this great American crop, the importance of which is almost inestimable to our people. First and foremost, we would suggest that if any one has not yet finished his ploughing, let him give heed to our advice as to ploughing deep his land and pulverizing it well—this will delay you perhaps a little longer, but in the end you will surely find that you will be none the loser by it. We have already given some practical illustrations of the im-

portance of deep ploughing and thorough pulverization and preparation of the soil—and we could multiply them to almost any extent—but space is precious, and we have much to say this month upon many other topics; therefore we must be content with the following case: In Ohio, John L. Gill, in the report of the Agricultural Department, says, that off a tract of bottom land which for 40 years previous had never been ploughed deeper than 6 inches, and had all that time been planted annually in corn, he took 11¼ acres, and ploughed it to a depth of 8 inches and subsoiled to a further depth of 8 inches, and planted it in corn May 10th. The adjoining portion of the tract was ploughed to the usual depth of previous years, and planted with corn May 7th. On the shallow ploughed land the corn came up, and looked for a few weeks as well as on the deep-ploughed; but when the heat of July came, the corn on the shallow-ploughed came to a stand-still, the leaves curled and drooped, and gave unmistakable evidences of suffering from drought; while that on the deep-ploughed land was growing vigorously, and indicated no lack of moisture. The result was that Mr. Gill obtained 120 bushels per acre on the deep ploughed portion, while the adjoining fields yielded less than 40 bushels per acre. These are all the particulars that are given, and from the fact that it was bottom land, it is probable that no manure was used, and that the difference between the subsoiled and common ploughed ground was due solely to the difference in the depth of ploughing. Every one can form his own conclusions, and we will dismiss the case with the single remark, that the mineral constituents, which are natural to all soils, had been untouched or unearthed up to this time, below the usual depth of ploughing, and consequently remained dormant until thus liberated to the light and air by the ploughshare, and were then in their new condition operated upon by the atmosphere, and enabled to give forth their hitherto hidden virtues, with what success the result given above plainly shows. Whatever the cause, or the theory, however, what the farmer is best satisfied with is the result, and here it is presented, with the proofs, in an undoubted form.

We alluded in our Jan. No. to a test case in growing corn, for a prize offered by a Balt. Co. (Md.) Club, (the Gunpowder,) which resulted in one of the contestants raising 250¼ bushels of ears of corn per acre, (or 25 barrels and ¼ bushel.) Although the statement before us makes no mention of the ploughing and preparation of the soil, yet from the excellent schooling in his business which this young farmer has received, we have no doubt that both the ploughing and preparation was thoroughly attended to. But we will give his own account of the cultivation, which we have been specially requested to do by correspondents elsewhere. The farm of Mr. Wilson W. Matthews is situated on the Western Run, about 16 miles from Baltimore, near the York turnpike. He says: "This acre was part of a 30 acre field, all of which was planted without any reference to the friendly contest. I at the time expected to have selected an acre on another part of the farm. It was marked out and planted 3 by 3½ feet. Just after the corn had come through the ground, I concluded to make this my test acre, had the middle split one way and planted, thus making the hills from centre to centre 3½ feet by 18 inches. The acre was treated to about 50 bushels of compost made of hen manure, hog manure and bone dust. The second planting, although it came up well, did not thrive as the first. The ears were not so large, and many of the stalks had none on. This, I have no doubt, made the crop at least 3 barrels less than if it had all been planted at one time. The whole field was worked as usual with shovel ploughs and cultivators, no hoes being used, and this acre in consequence of being able to work it but one way, was cultivated two times less than the rest of the field." The acre was accurately measured and the result as above stated, (250¼ bushels to the acre.) Some of the competitors to Mr. M. raised 18 barrels to the acre, and if the same powerful manure had been used that the successful competitor applied to his corn, we think from the well known character of the land in that vicinity, the result would have been a much closer contest. The victor in this rural strife playfully consoles his opponents and neighbors, by observing, that "the reputation of Western Run land has not suffered, even if they did not obtain the prize." Before leaving this case, we will annex a calculation made by Mr. Matthews, for the consideration of corn-growers, and perhaps it may stimulate some of them to make the attempt to reach the latter conclusions of our young friend, and if successful, we promise to prepare a bigger prize cup than that offered by the Club. He says: "But I propose to show how possible it is that even much more than this may be grown. An acre of ground contains 43,560 square feet; 3½ feet by 18 inches makes 5¼ square feet for each hill, equal to 8,300 hills, nearly. There were two stalks left to the hill, making 16,600 stalks to the acre. I counted the number of ears in one-half barrel, taken from another part of the field and found 203, or say 41 ears to the bushel. If there had been then one good ear on each stalk there would have been 16,600 ears, which divided by 41 would show a yield of over 400 bushels, or 40 barrels per acre."

To resume. The analysis of the corn plant, stalk, fodder and grain, gives of silicic acid (sand) 75.980, phosphoric acid 14.550, lime 5.672, magnesia 6.617, potash 23.396, soda 22.787, chlorine 7.096, sulphuric acid 10.970, and phosphates of iron, lime and magnesia 17.042. It will thus be seen what are the principal constituents in the corn plant. A dry, rich sandy loam is perhaps the best soil for corn, and will amply supply the silicic acid, which it will be seen is largely needed; potash comes next, and soda and chlorine

(salt) are also required, as are also phosphoric acid and sulphuric acid; consequently ashes, bone dust, (for the phosphoric acid,) salt, and plaster paris (for sulphuric acid,) are the main ingredients required for a corn crop. Peruvian guano is excellent in a compost, supplying to a considerable extent phosphoric acid and ammonia, but little potash—the bone dust will supply lime as well as phosphoric acid, and some ammonia.

Let us now proceed to point out some of the pre-requisites for success in a crop of corn—taking it for granted that the land has been ploughed and properly prepared so as to secure a good depth for the roots to riot in, in search of food already in the soil, and a fine tilth, so as to give a better chance of absorbing the dews and rain, and a freer scope for the air to penetrate the soil. If clover leys or grass swards are ploughed, before you harrow them, roll with a heavy roller the same way it was ploughed, to consolidate the soil; it closes up also the seams of the furrow slices, and prevents the furrow from turning up the sod. If the cut and grub worm are to be feared, a couple of bushels salt per acre will be found useful—this, for agricultural purposes, can be purchased here for about 40 cts. per bushel, in sacks of 3½ bushels. Under any circumstances, this is a cheap and useful manure for corn, as will be seen by the analysis above, and in addition to its other virtues, it increases the power of the soil by its attraction and absorption of moisture from the atmosphere. After the harrowing and cross-harrowing have been performed, then roll, and proceed to the listing of the ground preparatory to dropping the corn; if you intend to drill the corn, run the drills north and south—the depth of the lists should be 3 to 4 inches; the distance of the rows will be according to the quality of the land and the quantity of the manure; good land can bear to be planted 3 to 4 feet apart, under less favorable conditions 4 by 4½, which probably will be adopted by most farmers—but if a large crop is aimed at, the manure and the land must be such as to give the necessary yield, and this cannot be the case unless you have plants upon the ground to bear the ears. In Mr. Matthews' acre, the hills from centre to centre were 3½ feet by 18 inches—but probably few have the quality of the land or the kind and quantity of manure he operated with, and therefore, in this respect, his example will not do for general guidance. Three plants should be left in a hill, and it will take a tolerably good soil to bring the corn to maturity with this number; the most of lands will not bear more than two stalks, as more than this will produce an unprofitable quantity of short corn or nubbins. Drilled corn should be about 12 to 15 inches apart, but such close planting requires to be very liberally manured, broadcast, as well as in the drills.

Independent of the manure applied broadcast, which should always be the mode for manuring, to do justice to the land and for the benefit of future crops, we deem it best to push the plants ahead quickly, to give a stimulus to them by manuring also *in the hill*, and for this purpose a compost made of two loads woods-mould, or marsh mud, or mould from head lands, and one load stable manure, 5 bushels ashes, 1 bushel salt, and 1 bushel plaster, intimately mixed together, will give about 1½ to 2 pints to a hill for an acre, and will be found very efficient in forcing the plants in their incipient growth, a most important point in corn growing—this is a cheap formula—the same would also answer for the drill-planted corn. Or in place of the above, take 50 lbs. guano, or bone dust, the former best for this purpose, add 1 bushel plaster, 5 bushels slaked ashes, 1 bushel salt, and 3 loads of rich mould or marsh mud or woods mould, thoroughly mix, and give to each hill a pint, or 2 pints around the plant at the first working.

For manuring *broadcast*, those who can procure guano, bone dust, salt, ashes and plaster, hog or hen manure, can hardly go astray in their applying them, in proportions equivalent to 100 lbs. guano, 150 of bone dust, or super-phosphates, 10 do. leached ashes, 2 bushels salt, and 1 of plaster. *Or*, one-half of the principal articles, well mixed with 20 loads of stable or barn-yard manure—the salt and plaster is not too large a dose for the acre. These will supply the food for a good crop of corn, and leave the land in an excellent condition for the future crops. If you can do nothing better, then use the composts we have before recommended, of all the scrapings of ditches, wood-mould, seaweed, fishes, muck, peat, bones, refuse ashes, and anything that ever had life, vegetable or animal, incorporating them well, and apply broadcast, ploughing in the same, and if you have done justice to the land in ploughing, then you will have a manure that will not cost a dollar in cash, unless you apply a bushel or two of salt, and a bushel of plaster, and our word for it you will have a net gain in your favor over many other applications you might make, bought at a high cost, and the lastingness of the compost will be decidedly the best. The seed should be selected with care from the earliest and most perfect ears, and from the most prolific stalks. Corn, if steeped in a solution of saltpetre 24 hours is preserved from vermin, and at the same time the growth is accelerated—and if you add half a pint of boiling tar to each peck of seed, stirring until the seed is thinly coated with it, the advantage will be apparent.

We have already so far extended our remarks upon this crop, that we must in justice to other subjects defer further hints about the after culture, &c., to our next, and sum up all we have thus far said as in a nutshell, by urging, *plough deep; pulverize and prepare* your land *well;* get *manure*, of your own making if possible, but if necessary, buy those kinds that will give you a good crop at present, and permanently improve your land—get good *seed*, and plant to suit your

soil and manure—manure in the hill, but if either is to be omitted, let that pass to secure a broadcasting.

Tobacco.—In our Feb. No. we gave a preliminary article on the cultivation of Tobacco, which referred principally to the seed bed. We promised to follow up the subject, and in this No. devote considerable space to it. A correspondent in Virginia having requested us to furnish some information upon its cultivation in Connecticut, and the reason why the tobacco of that State realized so much larger a profit, in quantity and quality, than that of the old Tobacco States of the South, we requested *W. H. White, Esq.*, to supply us with the desired particulars, and have received the excellent communication which will be found in our pages of this month. Mr. W. is one of the most successful farmers in his section; is a practical man, as all his writings, which we frequently find in the Eastern agricultural journals show, whilst the profitable results of his own operations speak for themselves. In a note appended to his communication, Mr. W. remarks: "I give a condensed method of our culture, &c., of tobacco, which I hope will impart the information desired; but I doubt its benefitting your enquirer largely, for I think the too general failing of culturists is the want of faith in their business—want of faith in *high manuring* and *thorough culture* will certainly defeat obtaining extraordinary success in any kind of farming." We need not commend the article to the general attention of tobacco-growers—its vast importance to them will command their closest scrutiny. In a paper furnished by the same gentleman to one of the daily papers of his State, upon this subject, he says: "The *soil* is generally an alluvial, sandy loam, varying in composition from a heavy sandy loam to a light one containing very little clay; the heavier soils produce the heaviest tobacco, the great crops of 2,900 down to 2,000 lbs. The lighter loams are underlaid with a yellowish sandy loam; the heavier ones have a darker subsoil, with a darker-colored surface soil. The light-colored surface, with light subsoil, grows the finer qualities of wrappers, and averages, under thorough culture, about 2,000 to 2,400 lbs. per acre." In some localities, farther back from the rivers, the soil, he says, "is of somewhat different character, yet growing good crops of tobacco, usually selling at a little less price than that nearer the river; to a casual observer, much of the soil appears like an unproductive one, especially where uncultivated, yet, with high culture and manuring, miracles are wrought, almost, in productiveness." The "Connecticut *seed* leaf," which is grown, is, Mr. White says, very similar to the "Virginia tobacco," but that whilst the seed of his State has been scattered abroad, especially at the West, yet the cured leaf from this seed has very little, if any, of the qualities it has, grown in Connecticut.* "Farm and stable manures (Mr. White adds) are mainly relied on for fertilizers, and this, on the ground, costs, where purchased, about $20 per cord of 128 feet, and is applied broadcast just before corn-planting time in spring, evenly distributed over the whole surface, and ploughed under four or five inches deep. The land then remains until about a week before setting time, just long enough to prepare the ground for setting previous to time, when it is ploughed again about two inches deeper than at first; in the intervening time one or two harrowings are given to destroy weeds, etc. Ten to twelve cords of stable manure are applied to the acre, and in addition from 200 to 250 pounds of Peruvian guano, with an equal or somewhat greater quantity of plaster, mixed, to the acre, strewed in the drill as the ground is fitted for setting the plants; no other application of fertilizers is made to the crop, with us, but a very important essential is in setting good strong plants well, and then to keep them growing evenly throughout the whole field, from the time they take root to the time of harvesting, doing all in just the right time."

Although we may return to the subject again in our next, we had better now, perhaps, give the following mode of culture in Virginia, which we copy from a prize essay of Mr. Evans Turner, read before the Mecklenburg Agricultural Society. After giving his plan for making the beds, he says:

"After the plants are up, if the flies depredate, feed them upon tobacco seed; it is the surest antidote known to me. After the plants get above five inches high I commence the preparation of my land in the following manner: I attach two mold-boards to a common trowel hoe, which I prefer to a turning plow; into this furrow I drill my manure and fertilizers. I then run one furrow on each side with a single horse plow, covering the manure. On this ridge I plant, after marking and checking the ridge with a stick or small pole, about three feet for ordinary land, and three and a half feet for highly improved. The plant may be inserted in the mark made by the stick or pole, or a short distance from it. This makes the row both ways. After six or eight days, depending on the weather, I throw out the row, or rather I run two furrows; this will leave but a small space to weed, if done by a careful hand. About the time I desire to apply a little dirt to the plant, I run close to the tobacco with a bull-tongue plow, and apply the manure or fertilizer the second time, then throw out the row with the turning plow. Two furrows generally suffice. The hoe hand has but little to do, merely putting a little dirt to the plant. The last time I work it I use the trowel hoe with

[* *Note.*—This is not always the case, however, as we see it stated on page 189 of Agricultural Bureau Report, for 1870, that in Wisconsin a change of seed produced a larger crop and better quality—the Connecticut seed taking the place of the former variety sown.]

two mold-boards once in a row, then hill it with a large, high hill, which prevents drowning. I prime low, not above the two first large leaves, and top at ten leaves, not higher, and let it get thoroughly ripe, when I commence cutting. I get hands enough to cut and fill a twenty-foot barn in a day. The next morning I put small fires, increasing them every morning for five days, which is generally sufficient to cure the tobacco. By pursuing this, my yield is generally about four plants to the pound. I may say that if any young farmer will adopt this plan, I venture he will never repent it. I forgot to mention that if the tobacco ripens yellow it will cure up yellow, and *vice versa*."

Clover.—We feel deeply in earnest in our efforts to induce farmers to sow clover seed this spring. And although we have already in former numbers devoted almost an undue amount of our space to the subject, we still feel like adding "line upon line, and precept upon precept," so important do we consider the subject. It is generally considered most advisable to sow the seed upon the wheat as early as possible, in February, if the snow is on the ground, as it can then be more evenly done—but if this has not been done, then when the frost is out of the ground, and the horses' feet will not do harm to the field; sow your clover seed, 12 lbs. to the acre, and roll it in. Some harrow and roll, but others fear that the plants will be torn up; this will do no injury if the roller is used, by which the plants are pressed into the earth, and any harm thereby obviated. If you are disposed to add to the value of your grass crop, sow with the clover a bushel or two to the acre of Orchard grass seed, as recommended in our Feb. No., to which we must refer. One great advantage of clover is, that it contains a vast amount of the most valuable of manures, Nitrogen, in its composition, obtained from the air through its broad leaves, whilst its roots penetrate in every direction, eliciting food from the bowels of the earth. It has been estimated that the roots of clover on an acre of land are equal in weight to the stems and leaves, and as remarked by a correspondent of the *Farm and Home*, "here are four tons of the finest of all manure deposited in the soil, perfectly assimilated with it and ready for plant food. What guano or superphosphate is equal to this? and then it does not cost $65 or $70 a ton. It asks for no lien-receipt or mortgage; it needs no manipulation, no hauling or spreading, and while the process of renovation is going on, it pays its way to the farmer for his trouble, outlay and use of his land, by giving him an abundance of fine, sweet, nutritive hay for his stock. It is a manure, a subsoiler, and food for stock, at one and the same time. Were our people to raise it on a portion of their land every year, and to keep sheep enough to eat the hay, thus returning it to the land in manure, their farms would produce in ten years from now five times what they now produce. Their lands would become five times as valuable as they now are, and they could save one-half of the labor they now employ. With patience, perseverance, and red clover, we can become, under Providence, the richest and most prosperous people in the world." We refer to an interesting communication on this subject on another page.

Barley.—This crop can be made a profitable one, and it should be more extensively raised. We have been urged by gentlemen engaged in business connected with malting, to recommend farmers to pay more attention to raising this grain. Large quantities are imported from abroad, and much that is used in this vicinity is brought from the North. It will yield from 20 to 40 bushels per acre, according to the carefulness of its cultivation, the soil and season, and the grain will ever find a ready market and at a good price; a large crop, however, can only be expected from a good soil, suitable for it, and those who cannot do full justice to it had better not attempt its cultivation. One reason why we commend it is, that clover and other of the grasses take well when seeded with barley. A moderately moist (not wet) deep fertile loam is best for this crop—give to each acre, 10 double horse cart loads of stable or barn-yard manure, thoroughly mixed with 1 bushel plaster, 1 do. salt, and 10 bushels leached ashes, to be ploughed in—or 150 lbs. guano, mixed with 2 double horse cart loads of marsh or river mud, or woods mould, a bushel salt, and ½ do. plaster—the guano, mud, or mould, salt and plaster, to be thoroughly mixed together, spread evenly over the land, ploughed in 8 inches deep, speedily after being spread, the land to be thoroughly harrowed and rolled prior to sowing the barley. Another formula: per acre 4 bushels bone dust, 10 do. ashes, 2 loads woods mould, 2 bushels salt, and 1 do. plaster, all to be formed into a pile, layer and layer about, and suffered to remain in bulk 2 or 3 weeks, then shoveled over, evenly spread over the ground and ploughed in; this would give you a good crop of barley. *Or*, 2 bushels bone dust dissolved with sulphuric acid, diluted with water, and the mass when dissolved mixed with 10 bushels leached ashes, to be harrowed in at the time of seeding, will also produce a good crop. Sow 2 bushels seed to the acre, on the ground prepared as above indicated, and harrow and cross harrow the seed in; then lay off water furrows and roll the ground crosswise the furrows. The crop should be sowed as early as the soil is warmed after the frost is out of the ground. If, as suggested above, you should elect to sow clover seed, it is advisable, after the barley seed is harrowed and cross harrowed, that the clover or grass seeds should be sown prior to the rolling which follows the laying off of the water furrows. All small grain crops should have the land carefully water-furrowed, and the furrows kept

in such condition that the water may be enabled to pass off freely; winter killing of grain is caused by shallow-ploughing, wet soil, and obstructions in the water furrows.

Millet.—If, instead of buying hay raised hundreds of miles off, the Southern farmers and planters would set themselves to work to raise their own supplies for the rearing and feeding of stock, they would very soon increase their ability to resuscitate their worn-out lands. We are happy to see, by the communications in this paper, that this course is being strongly recommended by intelligent farmers. The idea that clover and the grasses cannot be successfully raised in the South, is a fallacy, and all that it requires is that the work be done right, and the proper kinds seeded, to prove the propriety of the attempt to introduce more largely the grasses into the husbandry of the South. We will, on this subject, have more to say in this and subsequent numbers. Our present object is to urge the sowing of Millet as one of the suitable crops for soiling; it can be sown early in the spring, with continuous sowings in this latitude even up to the 1st of July. It must, however, have a dry and highly manured soil; it will not answer for a permanent pasture as well as Lucerne, but small patches of it will be found very useful and toothsome to stock. Plough and prepare the ground as directed for other crops, and if subsoiled so much the better and surer the crop. Manure as heavily as you are able before ploughing, and harrow and roll; then sow four or five pecks of seed to the acre, and dust over with a bushel of plaster, and then lightly harrow in the seed and plaster, and roll. 20 double-horse cart-loads of stable and barn-yard manure, or 400 lbs. guano, or, what is better, 300 lbs. bone dust and 100 lbs. guano, to either of which add one bushel plaster, and you will have a suitable manuring to produce three or four tons of hay, and to leave the land in excellent plight for future crops. Millet is a Southern plant, and well worth the attention of that section. A Georgia correspondent of the Farm and Home says that he tried a patch of Millet last spring, on land that would produce 400 lbs. seed cotton or 12 to 15 bushels corn to the acre; and from this experiment he is satisfied that two acres planted early, well manured and cut regularly, will yield a plenty of rough food for 20 head of stock, from April until frost. But let him tell his own story:

"I manured a little more than an acre as well as I could with stable manure, broke it up good, bedded it as for cotton, leaving the rows about three feet and a half apart, and sowed the seed in a drill in the centre of the bed, about the last of March. It came up and grew off finely. I ran the sweep through the rows three times during the spring and summer. I commenced cutting about the third week in April, and kept on cutting until the 8th of September, and had a plenty of long forage from it. I used no other for eleven head of stock. The stock liked it, ate all I gave them clean, and kept fat. Not one of them had a day's sickness. I do not know exactly how often I cut it, but I think it was ten or eleven times, and I am satisfied it would have been better and have produced more if I had cut it oftener, as a good deal of it jointed and did not grow as fast as that which was cut oftener."

Potatoes.—We may seem very dogmatical in pressing upon the attention of our readers the importance of deep or subsoil ploughing; but now is the time to prove its value, and those who have no manure, or cannot obtain in time a sufficiency for their spring crops, should test even upon the smallest scale, the virtues of deep ploughing. We have already in our previous numbers given Potatoes a due proportion of attention, but must add an additional item in further illustration of our views. At the Pennsylvania Central Experimental Farm, in 1869, four subsoiled plots of ¼ of an acre each, yielded at the rate of 221.46 bushels per acre, whilst two plots not subsoiled, but otherwise treated in like manner, yielded at the rate of 131.79 bushels per acre, the report assuming 56 lbs. to the bushel.

Sweet Potatoes.—The following is the mode of cultivating this root, by a planter of Georgia, said to be one of the most practical and successful in his State. It was given in his report for a premium at the Georgia State Fair:

"Broke the land in March with a one-horse turn plow, six inches deep. Run off the rows three feet apart on the first of May with a turning shovel. Bedded with the same plow running the other way, and making the rows three feet apart. Made small hills with a hoe by drawing up soil lightly from the corners of the beds or squares between the furrows.—Opened the top of the hills with the hoe, put crushed cotton seed in each hill at the rate of fifteen bushels to the acre, and covered the seed with dirt. (Think the cotton seed did but little good if any.) Bedded out my sweet potatoes first day of April. Transplanted my slips from middle of May to 1st of June. Plowed twice with sweep, two furrows to each row, and hoed once. Went over the patch in August with a narrow hoe, and broke the vines loose from the ground, where they had taken root between the hills. Dug patch October 15th. Yield, 274 bushels and 30 lbs." Size of patch not stated.

A correspondent of the Southern Cultivator says that his experience proves that rotted ashes are better than any other manure for sweet potatoes—he opens the furrow deep, with a scooter plough, and puts in plenty of ashes, and beds out on the same, and a sure crop is realized, better than cow-penning manure or cotton seed. The rotted ashes also

are good for cotton, and on almost any kind of vegetation.

In this region the following is the mode of culture recommended:—The soil should be a deep rich sand, well exposed to the sun, and the ground deeply ploughed, thoroughly harrowed and rotted—lay the ground out in squares 4 feet apart; at the angle of every square dig a hole 12 inches deep, 18 inches diameter, into which put 4 inches of the compost recommended below, throw thereon 4 inches of the excavated earth, mix earth and compost well together, after which draw the remainder of the earth over the mixture so as to form a round hill about 12 inches on the top, which should be flat. In each of these hills plant two sets, cover them one or two inches deep; as the plants advance in growth, the hills should be enlarged in size by drawing the earth up around them with a hoe, or by cross-ploughing the ground, harrowing with a very narrow harrow, and rounding and finishing the hills with a broad hoe. The vines are kept free from weeds. Frequent enlargement of the hills will encourage the growth and increase the number of roots. When the hills are formed and the potatoes planted, each hill should receive a free dusting of a mixture composed of five bushels ashes and one of plaster. From the 1st to the 10th of May is the time of planting. The compost recommended is 5 double horse loads of well rotted dung, and 5 do. of wood or other mould—*or*, 15 double horse loads of wood or other mould, and 100 lbs. Peruvian guano, well mixed together, and applied as directed above.

Parsnips and Carrots.—The instructions for the cultivation of these roots are pretty much of the same tenor. A deep sandy loam, deeply ploughed and pulverized, and well manured, will give you a large quantity of good and nutritious milk and butter-producing food for your milch cows. Horses are particularly benefitted by the use of carrots, which have an excellent effect on their hides, and as an alternating food are excellent for the bowels. Plow and harrow and roll *well*—and you understand what is meant by that term. Then run furrows 20 inches apart, 4 inches deep, for *parsnips*—in the furrows sow the manure 2 inches deep, then turn back the earth thrown out in making the furrow, run a roller over the top, and upon the top of the manure thus covered up, drill in the seed with a drilling machine which will make the drill, drop the seed, cover them up and roll them. If you have no seed drill, with the corner of a hoe make drills 1 inch deep, drop the seed either by hand or out of a bottle, cover with a rake, and compress the earth with the back of it. Quantity of seed for parsnips and carrots from 4 to 5 lbs. per acre. Soak the seed 24 hours in warm water, drain off the water and separate by mixing them with a mixture of equal parts of ashes and plaster, or soot and ashes, and to insure an equal and thin distribution of the seed, add 2 parts sand and 1 of seed, and stir them well together. When the seed are drilled in, give the drills a free dusting of a mixture comprised of 4 parts ashes and 1 of plaster, in addition to which the carrot drills would be benefitted by a dusting with salt. When the plants are 3 or 4 inches high, work between the plants with the hand, and at the same time thin them out, the carrots to 6 and the parsnips to stand 8 inches apart. A mixture composed of 3 parts ashes, 1 of plaster, and 1 of soot, given early in the morning when the dews are on the leaves, should be freely dusted on the plants. At intervals of two weeks apart, the plants should have a second and third hoeing and weeding, and repeat the dusting, and the working will be completed, unless there is an undue growth of weeds, when they had better have a fourth working. For the *carrots*, the drills need be only 15 inches apart, but same depth as for parsnips. The carrot seed before sowing should be rubbed between the hands mixed with sand. The manure suitable for an acre will be ten 2-horse loads well rotted stable or barn-yard manure, mixed with 5 loads rich mould—or 4 bushels bone dust with 10 bushels ashes, and ten 2-horse loads of marsh or river mud, or some rich mould or ditch scrapings. Sow according to situation, from 1st April to 15th May.

Swedish or Ruta-Baga Turnips.—This crop needs a rich, sandy loam soil; it is the great crop in England for feeding stock, but we have a much better in our corn—1,000 bushels are raised by cultivating and manuring well. A farmer at the North thus gives his mode of cultivation:—Cultivates in rows 2½ feet apart; plants 8 to 10 inches apart; drops plaster where he wants the seeds deposited, and with thumb and finger drops 3 or 4 seeds upon the plaster, and covers with a hoe. If the weather is sunny when they are an inch out of the ground, they are usually attacked by a black fly; then sprinkles them with super-phosphate of lime, at the rate of 200 pounds per acre, and when sufficiently large thins them out. In harvesting, clips the top off with a hoe, two rows into one, and feeds them to the cattle. Does not put them at once into the cellar, as they would heat.

Bones applied with the seed, or a dressing of lime, ashes, plaster and salt, are said to be the best applications that can be made.

Italian Rye Grass.—This plant, like the Millet, may be availed of as a ready resource for hay; a native of Italy, our warm suns are congenial to its growth. Manage as for Millet, and cut just as it is coming into bloom, it will yield two or three cuttings in a season. All kinds of animals eat it with avidity. After each cutting, give it a top-dressing of two bushels bone dust, one do.

salt, and five do. ashes. At the time of seeding, sow a bushel of plaster per acre over it. It will yield large crops, is a biennial, and if cut just as it comes into bloom, will last two or three years, if top-dressed as recommended above after each cutting.

Permanent Pastures.—In a former number we urged the providing of permanent pastures for stock, and gave some instructions upon the subject for your guidance. If attended to (and now is the time to do it), you will never regret it.

Jerusalem Artichokes.—These are an excellent esculent for stock, particularly for hogs, but if you put it in you must select a spot which you can spare for a permanency, for it is difficult to get clear of it when once in the ground, for it seeds itself, and all the rooting of all your hogs will not get your lot clear of it. It is planted and managed as Irish potatoes. An acre well manured and cultivated will yield 500 bushels of the tubers, and the blades make excellent fodder for stock. 12 to 15 bushels seed per acre is required—cut as potatoes are, in sets—but, as before remarked, there is no after-seeding in subsequent years. Lay off the rows, four feet apart, when the ground is prepared, and place your sets two feet apart in the rows, put on your manure and cover. 20 loads stable or barn-yard manure will be a good dressing for an acre, half to be spread broadcast and ploughed in, the other half to be applied in the rows. To those who keep hogs, artichokes are a cheap mode of feeding them.

Corn for Soiling.—We would strenuously urge upon every one having stock, to raise successively through the season corn for soiling. It is undoubtedly one of the most grateful kinds of food which we can offer to their palate, particularly to milch cows, but it requires other food in conjunction with it, such as hay and roots, or other such substances, to keep up the full flow of milk. It will not do to rely on it alone for this object.

Beet Roots.—The earlier Beet Seed is gotten in the better, as it is desirable that the headway should be made in the earliest stages. Hon. Hy. Lane, at the Vermont Dairyman's Association, claimed that it yields "with greater certainty a greater amount of food per acre than any other root, at less cost, of better quality than the turnip, nearly as good as the carrot for young stock, and better for milk, ready to feed by the first or middle of October, and keeping sound through the winter until late in the spring." The middle of April is the right time, but it can be sown much later. Mr. Lane makes a statement worthy of note, if correct, that if gotten in as early as the land can be properly worked, on strong, heavy land, free from stagnant water, the amount of the crop (in his latitude) will be about double its amount on the 1st of September; or in other words, that all the growth we are able to secure by that time, will be doubled between then and harvest time. 40 tons of beets are estimated by the Agriculturist to be equal to 10 tons good hay. Of their value in feeding and fattening hogs, there can be no doubt, and one great consideration in their use is, that they have a tendency towards the preservation of the health of hogs, as well as of cattle and sheep. The Manchester Mirror has a correspondent who says:—"I think I told you about a year ago that I intended to raise a lot of sugar beets for my swine. My only regret is that I did not raise more of them. I never had my hogs do better than on this food. I am prepared to believe that they will be valuable food for fattening hogs, and I consider them superior to any other root for stock of any kind.

"I raised 5 acres of mangels—the large red—this year. They yielded about 31 tons to the acre, or 1,200 bushels. If farmers will only try them one year, they will never do without them. Hogs are very fond of them, and in the fall will eat them, tops and all, when other feed is scarce. I think one acre of them, well tended, will produce as much feed as five acres of corn."

As remarked in our last, we have no wish to see the raising of beets entered upon prematurely for the making of sugar, but it will well pay to cultivate them, and in due course of time, the preparation can be easily made to supply factories which will assuredly be established to turn them into sugar. This business is increasing rapidly in Europe and America, and we wish to see the foundation laid broadly in our southern regions for its introduction when the right time comes. Mr. Andrews, (of Minnesota,) our present minister to Sweden, in a letter home, makes mention of the active movement making in Sweden, and as the climate of Minnesota is about that of Sweden, the introduction is to be commenced there also—but it is not as propitious as that of Maryland or Virginia. Mr. Andrews says that the factory at Stockholm, established in 1869, cost about one hundred and ten thousand dollars, with a capacity of manufacturing ten thousand tons a year.

One great advantage to those who now or hereafter engage in the business is that they can profit by the long, dearly bought and widely extended experience of other countries, and construct their works on the most approved plans. Farmers in Sweden realize $100 per acre for their beets.

Bones.—A correspondent asks about dissolving bones without the aid of acid, and if the use of ashes in connection with the bones will injure the latter. In reply we would say, that there is no objection to the mixture of the bones and ashes. We offer some views upon the value of bones, the effect and per-

manency of which we believe are excelled by no other application to the soil—not that other manures applied will not produce as good a first crop as they will, but we believe no other will be as permanent. We can point out fields in the vicinity of our own farm, boned six to eight years ago, the crops of wheat on which are unequalled, or at least unsurpassed, by those on any other in a range of country for miles round, where the same material has not been used. On our own place, fifteen miles north of this city, a field of fourteen acres had about 300 lbs. to the acre applied, ten acres being in wheat. This field, some five or six years ago, was sown in wheat by the then owner, and did not return half the seed sown; with the bone dust applied, without any other manure, the field produced a crop equal to any other in the vicinity. It had prior to this time been scratched over; our tenant, however, had a good team, and probably sent his ploughshare deeper into the earth than it had ever reached before, though he did not subsoil it. The outlay for the bone dust was made by us, and paid us well; the clover, too, had a good setting. Had we used about a fourth or fifth the amount expended in ammoniacal guano, the crop would have been better, no doubt, but the future returns would not have been so remunerative to us. Bone dust acts most efficiently on loams and light lands, and not with equal promptness or efficiency on stiff clay—should always be lightly harrowed in, so as to be near the surface, as its influences are not felt until the heat of spring or summer operates in conjunction with the moisture in the ground to promote decomposition. And here let us remark, that the bone dust applied in the spring is most effective, for the reason just assigned; guano is all the time giving off its ammonia, but the ammonia in bones is only brought into active play by the conjunction of heat and moisture—therefore, except for the fall crops, when it is preferable to sow it with the wheat or rye, it is better to apply it in the spring. One fact must be borne in mind, that in bones you have the most sure material for the supply of the phosphate of lime, which must be had for all lands from which grain or hay or milk is removed, the grains being peculiarly rich in phosphates. You turn in the offal made from the crops, but what is to replace the grain or hay? A good superphosphate will do it for a single crop or two, but then its effects are exhausted. A very intelligent writer in a Southern paper, speaking on the virtues of clover, very appropriately remarks upon manufactured manures, that "in applying the commercial fertilizers I make it a rule to mix them with the soil some days before planting, so that the soil may become charged with their fertilizing properties, and thus gradually supply the crop during the entire period of its growth. I do not expect the manufactured manure to do more than help the crop. I believe that those which you are told you "will hear from for two or three years," never talk very plainly at any time, and that those which do all they know how, in one season, always pay the best."

To the question of our correspondent we would say, that to avoid using the sulphuric acid, or other strong acid, the bones can be placed in a compost with stable manure; first, a layer of dung, then another of bones, and so on till your supply is exhausted. In a few weeks the mass will begin to ferment, and by thrusting a stick down through the mass, and withdrawing it again, it can be determined by the smoke arising from the aperture whether it is time to commence thoroughly mixing the ingredients, as the bones will have become softened so as to crumble and mix with the mass very readily. This, in England, is called the Norfolk system, and has been adopted here. Bones can be mixed in a mass with five times their volume of ashes, and permitted to remain in pie two or three weeks, then should be shoveled over, and sown broadcast and harrowed in; or they may be strewn along the drill, if drill culture be adopted. Bones should either be dissolved by the use of the sulphuric acid, or excited into an incipient state of decomposition, in the way indicated above, before being applied, and always harrowed in. Let us add the views of Prof. Norton, as a part of our reply to our correspondent. After giving directions for dissolving bones with sulphuric acid, he adds: "A more convenient method in most cases is to thoroughly mix the pasty mass of dissolved bones with a large quantity of ashes, peat, earth, saw-dust, or charcoal dust. It can then be sown by hand, or dropped from a drill machine. Two or three bushels of these dissolved bones, with half the usual quantity of yard manure, are sufficient for an acre. This is, therefore, an exceedingly powerful fertilizer."

Three bushels dissolved bones, intimately mixed with ten bushels of ashes, has been found by experience to be sufficient to manure an acre. In our own application, alluded to above, bone dust was unmixed with anything else, and applied broadcast. It was tolerably fine, but neither dissolved or ground into meal, but the powder was fine enough for the crop to which it was applied to be taken up at once, leaving the larger particles to be gradually dissolved as the necessities of the plant required.

One word more. In a prize essay, for the premium offered by the Maryland Agricultural Society, some years ago, and awarded to Com. Thos. Ap. Jones, of Fairfax, Va., the writer says: "Of all the concentrated manures for sale in our seaboard cities, crushed bone, or bone dust, is undoubtedly the best. Its effect on the soil is both prompt and permanent; at least, a single application made by me fifteen years ago is still quite visible, although the ground has been heavily cropped ever since. I found that one bushel of crushed bone was equivalent to one double-horse cart load of good farm-yard manure."

Fish for Manure.—We have already alluded to the great value of Fish for manuring land, on account of the Nitrogen therein. We add the following scrap, by an Eastern correspondent of the *Practical Farmer*, as being timely to those having facilities for obtaining the fish:

Along the coast of New England are numerous fisheries, for the purpose of catching fish for their oil, and, after expressing that, the refuse is packed and sold for manure. This refuse is considered better than to take fish before expressing the oil. It is put up in barrels, and can be transported to any distance, same as other freight. The manufacturers deliver it at wharf or depot for something less than twenty dollars per ton—and at this price it is the cheapest fertilizer in market. One ton of this, composted with three tons of coarse yard manure and six tons of dry muck or loam sods, with two or three hundred weight of plaster (gypsum), will make a manure which will bring one of the finest crops of corn, or almost any other crop. Some in our vicinity use it for tobacco, with very good results. A neighbor used some on corn the past season, composted with dirt (soil), only using five or six times the bulk of guano pressed fish, of dry soil, and then putting into each hill a small single handful. The corn was a first-rate crop, both in quantity and quality. In planting, it will not answer to put the seed directly over this manure, for if so, it burns the tap root, and, if not destroying life, checks growth; but the seed should be put a little one side of the fertilizer, and then it comes up and grows with a rich green, healthy color and growth. Composted with strawy manure or other vegetable matter, etc., it very soon heats up, and must be attended to seasonably, or it will burn and injure the compost. The pile will need turning about twice before using, to get it in the right condition.

Sea Weed for Manure.—As it is all-important to bring into requisition every available means of making fertilizers and compost heaps, we would again refer to the value of sea weed. In England and Scotland such is the value put upon this weed, that several shillings per acre are added to the rent of the farm which has the right of way to a beach where sea weed can be had. In this country, too, prudent and observant farmers do not fail to make good use of it when near at hand. It is very rich in potash, soda, sulphuric and phosphoric acids, and other valuable substances needed by plants, as will be seen by the following analysis of the ash of sea weed by Professor Johnson, viz:

Potash and Soda,	from	15	to 40	per cent.
Lime,	"	3	" 20	"
Magnesia,	"	7	" 15	"
Common Salt,	"	3	" 35	"
Phosphate of Lime,	"	3	" 10	"
Sulphuric Acid,	"	14	" 31	"
Silica,	"	1	" 11	"

With such a manure at hand, no farmer should fail to avail of the opportunity of securing it, as it can be applied in the compost heap, or ploughed in, green—the former we think best, as it contains much water in the green state. It is not permanent, however, in its effects, but produces excellent results upon the first crop. Many kinds of sea weed contain much *nitrogen*, and this, whilst adding greatly to their value as a manure, increases their rapid decomposition and immediate effect upon the crop.

Bones and Ammonia.—Mr. David Dickson, of Hancock Co., Ga., undoubtedly one of the best, if not the very best farmer and planter of his State, and who has probably used more fertilizing materials than any man in this country, in a letter to the translator of the work on manures, by Mr. Ville, makes the following remark:—"I have never had much confidence in Chemistry when applied to soils. Thirty pounds of soluble bone and thirty of ammonia will give a good crop on poor land, and no chemist can find it after applying that amount to the acre." The editor of the *Plantation*, to whom this was addressed, adds:—"We quite agree with Mr. Dickson as to his estimate of the value of chemical analysis of soils, as expressed in his terse and pointed language. Much was at one time, under the teachings of Liebig, expected from the analysis of soils. It was hoped by analysis that we could find out precisely that which a soil needed. But expectation has entirely failed. The case that Mr. Dickson makes is a very strong one. Sixty pounds of a combined fertilizer might produce a marked effect on the product of an acre of land, and yet no chemist could find it by the most delicate analysis after it has been incorporated into the soil.

"Is Chemistry then useless in Agriculture? By no means. It is of vast use. Let any one read Ville's book, and he will see its utility abundantly illustrated."

Whitewashing.—In the spring all outdoor buildings, as well as the family residence and kitchen, should have a thorough whitewashing—and a great addition to the beauty of a country house is also attained by the same process being applied to the fencing near the homestead. The following recipe we clip from Dr. Nichols' Journal of Chemistry, for a brilliant stucco whitewash:

Take a peck of clean lumps of well-burnt lime, slack in hot water in a small tub, and cover it to keep in the steam. It should then be passed through a fine sieve in a fluid form to obtain the flower of lime. Add a quarter of a pound of whiting or burnt alum, two pounds of sugar, three pints of rice flour made into a thin and well-boiled paste, and one pound of glue dissolved over a slow fire. It

is said to be more brilliant than plaster of Paris, and will last fifty years. It should be put on warm with a paint-brush.

This is very similar to the recipe for making the celebrated wash used on the President's House, at Washington, and which is frequently published. The following are simpler:

Slake a peck of lime in a tub, then boil two ounces glue slowly, until thoroughly dissolved; stir this into the slaked lime, and add as much water as will reduce it to the consistency of whitewash.

For inside work, this may be best:

Slake a peck of lime with boiling water, and, when cool, add as much water as will bring the slaked lime to the consistence of whitewash.

Another.—Slake a peck of lime in a tub, then dissolve half a pint of salt in water; stir that into the slaked lime; this done, add water to reduce it to the consistence of whitewash.

Paint.—Those who may prefer it can obtain very excellent paints, put up in a convenient form for ready use, and every man can be his own painter. See our advertising pages for particulars.

Hen Manure, Ashes, Plaster, and Salt.—John Jones, in the *Rural New Yorker*, says that a valuable fertilizer, and one in reach of every farmer, especially adapted to garden culture as well as for top-dressing and field culture, is hen manure, ashes, plaster, and salt mixed in equal quantities, excepting the salt, of which one-fourth will be sufficient. Mix intimately, and apply either in hill at the surface, or broadcast. It gives good results upon all soils and crops. I keep usually about 25 hens; these roost at a certain place the year round. Beneath the roosts is a light plank floor. The annual produce of droppings is six barrels of the pure thing. This, mixed with the same of ashes and plaster, gives 18 barrels, the salt brings it up to 20 barrels of choice fertilizing compost, equal to much of the superphosphate of commercial manure firms, and worth far more than the manure of two cows.

Alsike or Swedish Clover.—This requires deep and thorough cultivation. Ashes, gypsum, superphosphate and lime are good applications for the crop, not carrying seeds of weeds. Its success depends very much on the soil and cultivation. It thrives best on a moist, not wet, soil, and yields a rich and excellent fodder, making a superior hay to red clover, the stalk not being so woody. It is much relished by stock. The plant is fibrous, not tap-rooted, and succeeds best when the seed is sown with timothy or spring grain. It is well adapted for permanent grass land, either for pasture or mowing. Four or five pounds of seed are enough for an acre.

Original Correspondence.

IMMIGRATION AND LABOR.

To the Editors of the American Farmer:

I come now, in regular order, to the consideration of very important subjects, which have been much and earnestly discussed, but, in my opinion, not always with zeal according to knowledge. *Immigration* and *Labor* are the themes for to-day. Since the close of the war these subjects have filled the minds of our people, connected with an undefined hope that out of them would spring a remedy for all our ills. The most extravagant expectations have been indulged by gentlemen of warm imaginations and sanguine temper. And, although the census of 1870 discloses the fact that there has been no increase of population in Virginia since 1860, the emigration having exceeded the immigration by the whole number of births, we are still clinging to this broken reed. The people of the South are an ardent, impulsive and hopeful race. They "never say die." Like a brave soldier wounded in the field, they endeavor to think lightly of the r injuries, and to press on with vigor in the battle of life. Many of them, though fainting under their burdens, cling with tenacity to the delusion that they are not much hurt, under the teachings of men who—holding comfortable offices, or having lost nothing by the war, or who, like wreckers on the seacoast after a storm, have grown rich on the misfortunes of the sufferers—live in perpetual sunshine, and are surprised that their fellow-citizens are not in the same happy condition.

This perseverance under difficulties is proof of true manhood, and is highly to be commended; but it is the part of the wise statesman to take a calm survey of the actual situation, and, like a skilful physician, make a correct diagnosis, and, after ascertaining the full extent and virulence of the disease, prescribe the proper remedy.

What is the true condition of Virginia? She has neither gained nor lost population since the war. All her available public property has been wasted or destroyed. Her banking system has been overthrown, with the loss of eleven millions of bank capital and the credit which it represented. Her people have lost fully three-fourths of all their property, amounting to hundreds of millions of dollars. The State debt, largely increased by interest, is unpaid, and the private debt not materially, if at all, reduced, notwithstanding the great self-denial of the people; and the credit of farmers so completely prostrate that the Legislature is asked to pass a law to give merchants a lien on crops, to enable farmers to carry on their operations. This is the case for which a prescription is asked, and the remedy proposed is a system of im-

migration on State account, and at State expense!

There is great confusion in the public mind on the subject of immigration. Many suppose that Europe is teeming with redundant population, ready to emigrate in any numbers whenever an opportunity is offered. This is a great mistake. Never, in any age, have as great inducements been held out for immigration or colonization as have been offered by the policy of the Federal Government, and the Western States and railroads, in settling up the public domain of the United States. Neither the colonial policy of Rome, Greece or Carthage in ancient, or of England, France or Spain in modern times, was half as effective. Yet, under this stimulating policy, immigration has come to a pause. There were more immigrants in 1869 than in 1870; and more during the decade ending in 1860 than during that ending in 1870, although during the latter decade there was a double stimulus, in the desire to avoid forced military service in the wars on the Continent, and to get the liberal bounties offered for service in the United States army.

Virginia has no inducements to offer to colonists such as are in effect given by the Government of the United States to settlers in the West, or as the State of Maine offers to her Scandinavian colonists, to whom she divides out her public domain, and, in addition to a farm, gives to each family agricultural implements and pays one-half their passage across the ocean.

I am gratified to find, by the memorial of the Agricultural Society of Virginia to the Legislature in behalf of immigration, that the intelligent gentlemen composing the Executive Committee do not entertain the opinion that it is expedient to import agricultural labor into Virginia. The memorial, after some comments on the report of the Bureau of Statistics at Washington, proceeds: "This makes it plain that mere labor in large quantities, instead of relieving us, will only add to our embarrassment." I have not for a long time had a doubt on this subject. Large numbers of the best laborers are now often unemployed because we have neither money to pay them nor provisions to feed them. Five hundred of the best farm laborers of Europe, without means, suddenly landed in any county of Eastern Virginia, would produce as great a panic as a regiment of raiders. The memorial proceeds: "What we mainly need is land-buyers—that class that invests money to their and our gain. Of such there are many who might be reached by proper efforts on the part of the State. From all parts of Europe they will be welcome, but more particularly from Great Britain." I cordially concur with the intelligent author of the memorial in these opinions, dissenting only from the belief expressed that organized efforts on the part of the State will be necessary to influence such intelligent gentlemen of means as he desires to introduce.

We have seen what is the true cause of the condition of Virginia, and it is evident that immigration can afford no adequate relief. "What shall we do?" Many thoughtful men almost despair of the republic. The burden of the public and private debt, they say, is intolerable, and State and people will ultimately sink under the load. "Let the dead bury their dead," the Commonwealth must not perish. If we had the bare land unincumbered, they would have no doubt about recuperation. They have full faith in the capacity of the people of Virginia to accomplish the task, however difficult it may seem—a task more difficult than has ever been imposed on any people and successfully performed. I know that the case of Prussia, after the treaty of Tilsit, and her subsequent recuperation, has been cited as an example for our encouragement and imitation. The cases are not at all parallel. The population of Prussia was homogeneous, and ready, under a friendly Government, to go to work at once to repair her disasters; the people of Virginia heterogeneous and discordant, and her laborers, just released from bondage, were wild with the excitement of new-born liberty, and as intractable as unbroken colts. The loss of property in Prussia, too, in proportion to population, was scarcely a tithe of that of Virginia. What would be the condition of any great commercial city—New York, for example—if visited by a similar calamity? With the loss of three-fourths of her whole property, and left with the burden of all her debts, public and private, could she ever recuperate without generous aid from abroad? Her magnificent warehouses and wharves would become heaps of stone, like those of Tyre and Sidon, on which fishermen may dry their nets. None but an agricultural country highly favored by nature, and well cultivated by man, could survive such a calamity. I know it has been the fashion to sneer at Virginia as a State of abstractions; and some of our thoughtless politicians, in order to perpetrate a poor joke, have given currency to this imputation. I will say, however, what I know to be true, that the farmers of Virginia have been as enlightened and successful as any in this country; that her lands have been so well cultivated that her productions, in proportion to population, far surpassed those of most of the old States; that, according to the census of 1860, she produced nine bushels of wheat to the inhabitant, equalling the product of Delaware and Maryland, and more than doubling that of Pennsylvania and New York; one hundred and twenty-one million pounds of tobacco, being more than a fourth of the whole crop of the United States, and greatly more than the product of any other State; and all other productions in abundance that are raised in the temperate zones. But I shall probably be asked: How much *hay* did Virginia produce—not as much as the little State of Massachusetts? True, Virginia produced 445,529 tons, Massachusetts 665,331 tons; Virginia kept with her hay 2,415,067 hay-consuming animals, Massachusetts 442,637—

which was the more profitable operation? This is the bounty of nature to Virginia, and the tax which a rigorous climate imposes on Massachusetts. If there were statistics of stoves, Massachusetts would exhibit equal superiority. The truth is the climate of Virginia is generally so mild that much of the hay is consumed on the fields by the stock in winter. To illustrate this I will mention that in May, 1865, I visited my farm, Cabin Point, on the Potomac, which was abandoned during the war, and found on it a large herd of cattle—probably one hundred—fit for beef, and a large drove of beautiful young horses, which had been driven there by my neighbors, and had remained there, winter and summer, without attention or other food than what they grazed from the soil. Pardon this digression, into which I have been insensibly led.

There is one class of immigrants that we must have. Virginia has been the Lear of nations. Her sons are scattered from the Atlantic to the Pacific, from Canada to Texas. Go where you will—in the crowded marts of commerce, on the busy railways, in the mines and workshops, in the distant prairie where the buffalo and elk are hunted, in the wilds of Texas where it is literally a struggle to keep the wolf from the door; go where you will, like Æneas wandering from the flames of Troy, and you will see living evidences of our misfortunes. The mother of the Gracchi must not only point to these sons, but call the exiles home. None will be more devoted, none more earnest or effective, in the great work of reconstruction.

But we must have labor. What better material can be found than our half million of freedmen? I think I know something of the negro character. I long observed it in slavery, I have studied it since emancipation, and my deliberate opinion is that, in our circumstances, the Virginia negro is the best farm-laborer that the world can produce. He is less expensive, more tractable, more capable of bearing the vicissitudes of our climate, more adapted to all kinds of labor—in a word, the best man-of-all-work to be found. And in our peculiar situation they have this great advantage, that any gentleman can appreciate: they belong to a class marked by nature and separate from us, and that does not aspire to social equality. In an agricultural community, where wealth does not abound, this is absolutely necessary to that high civilization for which Virginia has been distinguished. I have had some experience with other laborers. I have tried the Yankee, the Swede, the German, the Irish, and the native Virginian, and, taken for all in all, I prefer the Virginia negro to all of them.

It was a saying of Julius Cæsar that there were two things necessary for the attainment of empire: *money* and *soldiers*. With money he could get soldiers, and with soldiers more money. He acted upon his precept, and, in his final struggle for empire, seized the public treasure, without which his victorious legions in a distant land would have melted away before the less disciplined but more numerous forces of Pompey, the battle of Pharsalia would never have been fought, and Pompey, and not Cæsar, would have been master of the liberties of Rome. Without approving the unscrupulous policy of Cæsar, we may learn something from his example. We have reversed the natural order of things by calling for immigrants before we get money. With money we can get labor, and with labor more money. My next communication will probably be on *Currency* and *Capital*—in one word, on MONEY, our great want. I shall endeavor to point out the ruinous effects of our present monetary system on all the great industrial interests of the whole country, especially on agriculture, and I earnestly invoke the calm consideration of this great subject by all good men, without regard to party or section.

WILLOUGHBY NEWTON.

Linden, Westmoreland co., Va., March 5, 1872.

Mr. Gilmer's Rejoinder.

Editors of the American Farmer:

My Dear Sirs: Having been closely confined to my home since our January court, by a severe attack of rheumatism, which so worried me I could neither read nor write much, I often became quite sad, in reflecting over the sad condition of my country, and the dreary prospects before us, much of which was dispelled by the cheering visit of your better than good March number of the *Farmer*, for which please accept for yourselves and your many able correspondents the sincere thanks of an old friend, whose heart beats now as warmly for his whole country's good as in the happier and better times of his youth, but whom the infirmities of feeble old age have almost restricted to an ardent desire to see fully aroused the best efforts of the vigorous young, the good and the great, in behalf of our sorely oppressed land.

Permit me to assure you, I have been far more cheered by the reading of your March number than by any other circumstance since the close of our destructive war, because in it I thought I could see the bright and brightening prospect, beautifully developing itself, that Mr. Newton and others were fast and surely succeeding in awakening our patriotic farmers everywhere to rally around the good old agricultural cause, the success of which is the good and support of us all, for which I thank each and every writer in that number of the *Farmer*. "*What shall we do?*" is now most truly a great and vital question, so great and so thoroughly depending upon locality and the thousand and one circumstances surrounding many of us, that I cannot see how it is in the power of any one man to suggest a plan which can be adapted to the wants of all men everywhere.

For instance, I presume your valuable *Farmer* now, or soon will visit almost every part of the American continent, on which will be

found every variety of soil, climate and production. Now, how can (even) our esteemed friend, Mr. Newton, to whom we all are justly so much indebted, hope to answer the question, "What shall we do?" to those living in these totally different localities? Just as correctly could the great Dr. Rush, when in his prime, have prescribed for a man in California, who he had been written to by a friend as being very sick. The fellow was a man, and very sick, and as the Doctor had made the disease of man his life's study, his friend's great confidence in him might have led him to believe it was only necessary to inform this great benefactor of the sick that the man in California was very sick, and he could and would prescribe for and cure him. And he could cure him just as certainly as any good land doctor could prescribe for and cure my sick land and condition away over yonder. Now, would our esteemed friend, Mr. Newton, advise me to be studying out and pursuing some plan which would be most likely best suited to all men everywhere, or would he not rather advise me to study out and diligently pursue the plan best suited to my own locality and the circumstances by which I am surrounded. In all of Mr. Newton's writings there is much to interest and please, and I, for one, do sincerely hope he will continue to favor us with his mature reflections, for I think from the effects of his past writings he has much to encourage him to continue for the common good of us all.

There are a vast number of us in Virginia, who, if they would calmly reflect and judiciously act with energy, would very soon see and feel and know its good and recuperating effects. We all have tried to do too much, and the result has been its being too badly done, and the several past unpropitious seasons have reduced many of us, and sadly depressed us all. Many of us have been badly Peter-Funked in our heavy outlays in what was sold to us as manures, much of which has never paid for its hauling from our depots. We have purchased too liberally of labor-saving implements, for which neither we nor our untrained labor were prepared, and we have employed vastly too much of worse than worthless labor. By these manures, implements and labor, I have been most most sadly bit, and, like a badly-burnt child, shall be very shy of them for all of the future; and this is my candid, honest advice to all: Be cautious of them. I have purchased an article with which I was well pleased, and the next season purchased the same article of the same person not worth one cent. Now, how is this? I well know I have never had a pound of these purchased manures unfairly tried, for I cannot afford it, for everything we now do on our farms costs us so much that I want it to pay me.

I now find I could have gotten my lands in grass much earlier, cheaper and more profitably, of which I will try to write more fully in another communication. I chiefly use the pea and buckwheat as green fallows for my wheat crop, which cleans my lands and the wheat better than any other process I am master of, and the yield is far better than I have received from any manures purchased in the last several years. I now only buy lime and plaster, and find a much less quantity of lime does better than is generally supposed. I put only two bushels of oyster shell lime per acre with my wheat when seeding, and with it have more than doubled any of the bought manures on my wheat crop for the last three years. I raise all of my own grass seeds for this and another farm of seven hundred acres of cleared land, now tenanted out; and making my own seeds, I am far more liberal in their application, and thus often secure a far better stand.* This year I have re-seeded much which the last year's drouth crippled badly, rather than re-plough it. I maturely reflected over my plan years ago, and if I had at once put it into operation, now believe I would have been spared much trouble and expense, and would have received much better rewards.

During the war almost everything was taken from our lands, and every acre of grass was diligently searched for by the expressmen of our army for grazing purposes, and our lands now want green covering and fallows, just as a bacon-fed man all winter longs for a good mess of nice turnip salad in early spring; and these we must give them ere they will again produce as in former good old times.

In 1808 my good old father was a subscriber to the Memoirs of the Philadelphia Agricultural Society, all of which he had bound, and some of which having been loaned out years ago to friends now dead, cannot be found. In one of these I remember an account of, I think, a Mr. John West, from Pennsylvania or New York, who, as a merchant in one of those cities, had secured a good fortune, but lost his health, and determined to look for health upon a farm, and selected in the interior or back-part of one of those States a beautifully-lying farm of some thousand acres, on which no former proprietor had ever made a living. He got it at a very low price, and his friends laughed at him for his, as they said, foolish purchase. He moved on it, built good improvements, set in with his little stock, and for the fields no other tools but the grubbing hoes, briar and mowing blades, and in ten years, without a plough or any crops, he made it one of the best and most productive estates in his State. Now, if that article could be reproduced in the *Farmer*, it might help many in these times to solve for themselves this great question, "What shall we do?" I think it might go far to induce our esteemed friend, Mr. Newton, to think more favorably of my mode for all such as are located as, and in the condition of, your old friend,

GEO. C. GILMER.

Near Charlottesville, Va., March, 1872.

* Every farmer should follow Mr. Gilmer's plan of saving his own clover seed. See an article from Mr. A. B. Davis on this subject in this No.—*Eds. A. F.*

The Question "What shall we do?"

Messrs. Editors of the American Farmer:

Mr. Newton says, and justly, that his question, "What shall we do?" has not been answered; nor is it probable that it will be, satisfactorily to all, by any one or any dozen writers. Perhaps the only answer that will really meet all critics, is, that we must redeem ourselves by patient perseverance in a course of rigid economy, and untiring, enlightened, well-directed industry. The difficulty in the general adoption of this is, that while we are all satisfied that it is the safe and proper course for our neighbors, many of us think we can find a faster and an easier course for ourselves. But sooner or later we must all come to it, and the sooner we begin the better.

Mr Newton says his son thinks all we need is money. Exactly; that is all that any of us need, and if we all had plenty of it, there would be no question to answer, nor is it likely that he would have thought of asking it. How to get the money is the question. We must get it out of the land and by labor. Where else and how else are we to get it? Nobody will give it to us, and if we could borrow it we should only be worse off in the end. Ten farmers lose to one who gains by borrowing. Then we must depend upon ourselves, and use to the best advantage the means at our command—our land and our labor. Properly managed they will bring us out in the end, but it will take time.

It is very well to tell men with plenty of money to underdrain and subsoil their lands, and put upon it what are called "fertilizers," to the amount of twenty or thirty dollars per acre. Whoever undertakes to improve a farm of any considerable size upon this plan, will find that it requires a great deal of money, and that at least three years will elapse before he begins to realize the interest upon his money; and if he attempts to do it upon borrowed money, he must be a man of extraordinary endowments, and must have extraordinary good luck if he does not break before he gets through.

But I am not writing for the benefit of those who have money or credit; they can farm as they please as long as their money or their credit lasts. I don't know that what I may say will be of service to any body, but I intend it for the benefit of those who have little else than land; they compose the great mass of the southern people, and they are they who must redeem the country if it is done at all.

I had as well say here that I have no faith in the recuperation of the country by what are called concentrated fertilizers, for the reason that so far as I have been able to learn, the increase of production from their application has not been sufficient to pay for them. For the last five years the South has paid millions of dollars for them, and confessedly without any benefit at all commensurate with their cost. Of this I shall have more to say in another communication. Then, "what shall we do?"

In my next you shall have an answer to this question according to the views of

AN OLD FOGY.

Fauquier Co., Va.

Clover as a Fertilizer.

Editors of the American Farmer:

Very few people, even among farmers, place a proper estimate on the fertilizing properties of clover. Successive grain crops exhaust the fertilizing properties of the soil, which must be restored by manure, to make the continued farming of such land compensatory.

Clover is an economical, convenient and reliable manure. We may renovate our worn-out lands rapidly and effectually by clover, which furnishes, in addition, a large amount of the best of pasture for all farm stock.

A gallon to the acre of seed ought to be sown on our wheat or rye fields about the middle of March, on frozen ground—a bushel to eight acres. Some farmers sow a bushel to ten acres. But we think there is no economy in sowing too little seed.

After harvest we should allow the clover to get a good start, as the autumnal drouths may destroy the crop. It will not injure the crop if we turn in the hogs, to gather what wheat and rye may be left on the field.

Clover is a biennial plant, attaining its full growth the second summer after it is sown. If the crop is removed by grazing, the soil will be impoverished rather than enriched. But if we let the crop get its full growth before we turn in our stock, or if we commence pasturing when the clover is in full bloom, and one-half of the heads are beginning to turn brown, a large part of the crop will be trampled down, the soil will have a large quantity of humus furnished by the stalks and roots of the clover, and will be materially renovated. A field in clover the third season will furnish the best of pasture in the spring—a crop of clover seed in summer, and it may be followed in August for fall wheat.

The best way to use clover as a fertilizer is, plough it under when in full bloom, or to let the first mature, full-grown crop remain on the land.* Turn in the stock when half the heads are brown. Tramp down the stalks, otherwise the crop may be choked, killed, and the third year the field will have no clover for pasture or seed, except what comes from the seed.

There are two varieties of clover—the sapling, with large stalks four to six feet high in good land, with longer roots penetrating deeper into the subsoil, and a number of joints in the stalk, from each of which a branch shoots forth when the top is removed. There may be, therefore, several heads on one stalk. Stock are very fond of this clover, some say prefer it, and the fall pasture is worth almost as much as the spring. The second growth

* N. B.—If the length of the stalk of clover is an obstacle to ploughing, run the harrow or horse rake over it before the plough.

does not salivate horses as the second growth of the common red clover does. The fields of sapling clover, in the fall, if not grazed during summer, have a meadow-like appearance.

The common red clover is shorter, 18 to 20 inches high, has a smaller, finer, harder stalk, furnishes a nice early pasture, stands thick on the ground, may be cut for hay about the middle of June, and will yield a crop of seed the ensuing fall, and then the field may be fallowed for winter wheat. The root and stalks are shorter. The second crop causes ulceration on the tongues of horses, and profuse salivation.

Sapling clover ought not to be grazed later than the first of June, if we propose to make a crop of clover seed the same year. It may be mixed with timothy for hay, and makes a valuable addition. Sapling clover lodges and is not easily cut for hay, unless supported by timothy. The fall pasture of timothy fields is much better if mixed with sapling clover.

Two, three or four bushels of clover seed may be made on a well-managed acre of good land. Close grazing lessens the product.—Without sulphuric acid a soil will not produce clover. Plaster (sulphuric acid and lime) is the cheapest and most convenient application to supply sulphuric acid to soils. A soil without phosphoric acid will not produce wheat. There is some in barn-yard manure. Bones furnish it in larger quantity, and are used extensively in Europe to promote the growth of wheat, turnips, &c. Clover furnishes it in soils where bones or other phosphoric manures have been applied.

In our county it is considered bad farming to have our uncultivated fields without clover. We sow clover to renovate the soil, for pasture and for seed, and if the crop fails because of frost or drouth, we cultivate the field again in wheat or corn. We cannot afford to let the fields grow up in weeds.

THOMAS MADDOX.

Washington county, Md., Feb. 7, 1872.

Tobacco Cultivation in Connecticut.

Editors of the American Farmer:

Your letter of Feb. 29, soliciting an article for your journal giving information on the treatment and culture of tobacco in Connecticut, for the benefit of your Va. and N. C. readers, is received, and in compliance with said request I submit the following:

In the first place allow me to say the whole secret in growing heavy crops of tobacco lies in HEAVY MANURING and *thorough culture;* in no other way, that we are aware of, can we obtain the crops we do. Not only do we make and save all the manure we can on the farm, but we purchase and haul from far and near the best stable manure we can find—horse stable manure we find the best, growing the best quality of tobacco, finest leaf, etc. This we purchase in neighboring cities, going to New York city, and even as far as Buffalo to obtain supplies; and to increase these supplies we obtain tobacco stems, fish guano, and some other fertilizers, and compost the different kinds together, with muck or loam sods; the manure is partly decomposed so that it may be evenly distributed as applied to the soil. The reason of twice plowing is to fine the soil, and mix the manure more intimately therewith, leaving it nearer the surface where the benefit is received by the crop; the second plowing being one or two inches deeper than the first favors this distribution of the manure.

SEED BED.—Strong, healthy plants, in season, are one of the first essentials after the preceding main ones. To get these we select a sheltered spot away from trees, well drained, not too dry, rich, warm soil, dig in manure according as we think necessary—little danger of making too rich unless so as to burn; dig the soil six or eight inches deep, making the soil as fine as possible, especially the surface; guano may be applied at the rate of 20 to 30 lbs. to the square rod, and worked in 3 to 4 inches deep. Where the bed is made smooth, the surface fine as may be and clear from roots, stone, etc., it is rolled with a heavy hand roller, the surface scarified with a fine-toothed iron rake, and the seed applied broadcast at the rate of a table spoonful to the square rod of bed; the seed may be sprouted or not first, and then rolled to cover; if frosts occur after the plants come up, spread evergreen boughs over the bed—plant the bed as early in spring as safe. All that now remains is to keep the bed perfectly clear of weeds, and see that the plants keep growing, etc.

Transplanting.—We endeavor to forward our plants so as to begin transplanting the first of June, although if the plants are set so as to get "stuck" any time in June it will answer. The ground is laid off in rows 3½ feet apart, and the hills thirty inches in the row. Plants are selected as near of a size as may be, all strong and healthy, and carefully set during a moist time, or watered out when no rains occur as desired; the object is to get the patch, or a certain portion of it, all alike, the plants even and growing alike, and then keep them growing so.

After Culture.—Soon as the plants take root they are dressed out, going between the rows with the horse and cultivator, and finishing out in the row with the hand hoe. But from the time of transplanting the cut worms must be searched out and destroyed, to keep them from destroying the plants. The crop is usually dressed out as above three times, and after kept clean of any weeds that may come up, with the hand hoe. We are careful to keep every hill full and the plants evenly growing, and also to keep all green worms off from the time they first make their appearance.

Topping and Suckering.—When the piece has got to show blossom buds pretty generally, the top is broken off down to where the leaves are about six inches wide—the height

or number of leaves left depend upon the growth of the plants, leaving what we judge will mature to the best advantage. The past season one of my neighbors had a piece topped even with the shoulders of a man of ordinary height, the top leaves then interlocking in the rows, and the whole maturing well. This was the ordinary kind produced thus by heavy manuring and good culture. The suckers are all kept off as fast as they appear of size to get hold of to be broken off.

Cutting and Housing.—When the tobacco begins to turn ripe we begin to harvest. The tobacco is cut after the dew is off, and allowed to wilt somewhat on the ground; is then strung on lath, 5 or 6 to a 4-foot lath, laid down, and after wilting a little more is hauled on a suitable wagon to the curing barn, and there hung for curing, placing the ends of the lath on poles to support them. Some, instead of lathing up, twine on poles, first wilting more in the field, and then carting to the barn to be twined on poles in place. The plants are hung so as not to crowd each other, but just touch, and the tiers are far enough apart to clear the leaves of the upper tier from interfering with the next under. The barn needs to be well ventilated both at the sides and from underneath, so that there may be a circulation of air throughout. This is kept up till the tobacco is nearly cured down.

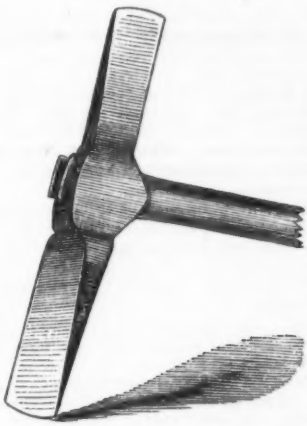
Stripping, Assorting, &c.—When the leaf stem—midrib—is cured, so that no juice may be wrung from it, is time to take down, bulk, and strip out from the bulk. It will not answer to let the tobacco lie in large bulk more than a day or two before stripping. The tobacco is assorted into two or three qualities as the leaves are stripped from the stalks, and each sort done up in hanks by itself and kept separate. The hanks are made about three to the pound, and neatly and carefully done up by winding a leaf 3 or 4 times around close to the butts of the leaf stems. The different sorts are then bulked, awaiting the buyer's inspection, or a favorable time for packing in cases. Our people never use any artificial means in curing their tobacco except such as above described; and a very important item in the culture of tobacco is also acted upon—*to never attempt to grow any more than we can manure well, and then thoroughly care for.*

Perhaps your correspondent, inquirer, may hardly credit the following, but it will not come up to some other growers in this vicinity whom I might mention. Our crop, of one and one-half acres, of 1869, weighed 3,480 lbs; 3,025 lbs. sold at 50 cents per lb., and 445 lbs. for 14 cents, amounting to the sum of $1,574.62; costing to produce not far from 20 cents per lb., or $696.00 for the 1½ acres, $464.00 per acre, leaving a profit of $585.74 per acre. The last crop not being stripped, I am unable as yet to give figures.

W. H. WHITE.

So. Windsor, Conn., March 4, 1872.

Fencing—Directions for using the double-edged Axe.



Several inquiries having been made concerning the axe for fencing referred to on page 15 of the January No. of *The American Farmer*, we have had the same figured and give below some instructions by our correspondent for its use, &c.

Saw the posts not less than 7 ft. 9 in. for 6-hole posts, and split through, or with, the knots. I hew them top or little end down, making a clean cut for the bottom, without a decided shoulder. At first I used a chalk line and plum to get the sides the same thickness, but have learned to do without. The hardest part is the pointing of the old rails; pick out a wet time, or rather when the rails are wet, and they will point easier. My fence costs me 3 or 5 cents per panel, besides my own labor.

After hewing your posts, make a pattern by sawing and notching for the holes; put your post on trestles, fasten it with one or two dogs or a chain and lever; mark out the holes, cut them two-thirds of the distance through from the bark side with the narrow edge, dressing with the wide one, and dress and finish from the heart side. It will be a little awkward at first, but with a little practice, a man that can cut a log can make and mortice a post. You can make from 12 to 16 posts a day, and if quick and handy, 20, it depending somewhat upon the kind and quality of the timber and its greenness or dryness.

Set your posts two and a half feet deep and make the post-holes round or oblong, *not square*, as you waste labor and cannot clean out the holes or ram the post as well. I think dirt is the best to fill in with, or dirt and stone, if you never expect to plow the land, or put another fence in its place.

I have now and then propped a weak post, with a stout stake driven well into the ground and fastened in a notch 12 or 18 inches from the bottom of the post. G. G.

THE AMERICAN FARMER,
AND
RURAL REGISTER.

Published on the 1st of every Month by
SAML. SANDS & SON,
No. 9 North street, near Baltimore street, Baltimore, Md. (sign of the Golden Plow.)

SAML. SANDS, WM. B. SANDS, } Editors and Proprietors.

TERMS—$1 50 per annum in advance; 5 copies for $5; 11 copies for $10. See Premium List for larger number of copies.

Advertisements payable in advance, except those continued for a year or an indefinite period, which will be payable quarterly.

1 Square of 10 lines or less, each insertion		$1 50
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1 " Single insertion		20 00
Each subsequent insertion, not exceeding four..		15 00
½ Page, single insertion		12 00
Each subsequent insertion, not exceeding four..		8 00

Advertisements on cover subject to special contract.

BALTIMORE, MD., APRIL 1, 1872.

NOTICE.

OUR PREMIUM LIST.—In order that the largest opportunity may be given those who are making up clubs for premiums, and also with the view of continuing such inducements as will result in securing a large subscription list to the *Farmer*, we have decided to continue the offer of premiums heretofore made until *June 30th*. Any person not having the premium list, which was published as a supplement to the January and February numbers, will be supplied on application. It is not necessary that all names should be forwarded at once, or that the papers should go to the same post-office.

These premiums are all very useful, can easily be secured, are offered to all without any competition, and the conditions on which they are given are exceedingly liberal.

☞ Those entitled to a premium under the original offer can, if preferred, receive it at once, and *begin anew* for another premium, under the arrangement as stated above; or, increase their lists if they wish to secure a premium of greater value.

OUR AGENCY.—See our large advertisement in the January and April numbers.

The "American Farmer's" Mission.

The various suggestions we receive from correspondents and friends as to the best mode of making our paper useful to the agricultural public, show the estimate held of the influence of the rejuvenated *Farmer*, and are at the same time an indication of the awakening of a spirit of improvement and inquiry in regard to our present systems of culture. We are also daily receiving evidences of the fact, that, to meet the demands of the times, a more frequent visit than a monthly one will soon be required, and the publication of the *Farmer* as a weekly, or at least a semi-monthly, will be necessary. This, of course, will involve a great increase of expense and labor; but as soon as things are ripe for the change, we hope to be ready to meet it.

In the meantime we have a field in which to labor, from which we hope to live to see much fruit gathered, and we call upon every subscriber and friend of the old pioneer *Farmer* to aid us in extending our circulation in their respective neighborhoods. There is no single reader of our paper who could not at once, with the slightest exertion, secure us at least another subscriber, and in many cases a club, either small or large, could be made up. We have a right to assume that no other agricultural journal has a more intelligent and better educated class of readers than our own, and in our lists are included the names of men of the very highest distinction in life, the publication of which would be a guarantee in their several States that the *Farmer* is worthy of the widest dissemination amongst those for whose particular benefit it is published.

The great success we have thus far met in resuming our labors is far beyond what our most sanguine expectations could have given us a right to hope for, but we know that in every neighborhood a little effort made by those who are already subscribers, by showing copies of the paper to their friends, &c., would result in a large increase of our circulation, and a more extended desire for improvement would be prompted thereby; and it is an established fact, that the more extensive and thorough any system of improvement in a locality, the greater the increase in the value of the property therein. In making this request of our friends we are not influenced by interested motives alone, since every considerable increase of our list of subscribers adds to our ability to increase the value and interest of *The Farmer*.

With regard to advertisements, our well-filled pages are an indication of the estimation in which our journal is held by the business men of this and other States; yet there is one class of advertisers we particularly hope to see frequently represented in our pages—for, though one of our correspondents thinks once

a month is too seldom for an advertisement to appear, others may take a different view of that point—and they are the breeders of improved stock. At the North there are a hundred persons engaged in one or other of the branches of stock-raising to one in the Middle and Southern States, but if these latter will try the columns of our journal they will not only be extending a knowledge of their own stock, but they will also aid in establishing a central medium, such as is suggested in the letter given below, the receipt of which, indeed, calls forth these remarks; and the writer of which, as will be noticed, practices what he preaches:

Messrs. Sam'l Sands & Son:

Gentlemen: Inclosed please find $1.50, my subscription to the *American Farmer*. I wish you the greatest success in the publication of the old *Farmer*. The farmers and stock-raisers of Virginia cannot well do without such a journal, and can make it, by their support, indispensable to them. Certain portions of this State and Maryland will, at no very distant day, bear a high reputation for their thorough-bred animals of every description, and dairy stock. We must have a medium through which to advertise our stock—a medium which, though not strictly local, shall be common to us all. We have heretofore relied, and are now relying for the most part, upon distant publications. Why not, for the future, stock-raisers of Virginia and Maryland, look to the *American Farmer* as our chief stock journal as well as agricultural authority?

In many portions of this State we have facilities equal to those of Kentucky for the breeding of fine stock. The revenue which Kentucky's thorough-breds brings to it is evidence that those of us in the blue grass region can make the breeding of stock (thorough-breds and high grade cattle only, if you choose) a highly remunerative branch of our agricultural industry. The time is coming, I hope, when our pastures will be too valuable to be devoted to the scrawny half-fed scrub, but will be occupied by stock which will merit, and yield a return for, our every attention. Very truly, J. D. BETHUNE.

Warrenton, Va., February, 1872.

☞ The communication of Mr. *Newton*, in the present issue, is upon a subject now engrossing the attention not only of the farmers and planters of Virginia, but of Maryland also, and most of the other Southern States, that of *Immigration* and *Labor*. Mr. N. treats it in a statesmanlike manner, with frankness and independence—and proves himself the man in the right place, for the present circumstances of those for whose special benefit he writes. We feel more than ever gratified that the *American Farmer* is so highly favored as to have been chosen the medium through which the agriculturists of the country are to be reached, upon, to them, these all-important questions of the day. In his next, Mr. N. purposes to treat upon another important question, that of *capital*.

We cannot resist the impulse to publish the following from a merchant of New York, D. H. London, Esq., who, on receiving a copy of the *Farmer*, offers to aid in extending its circulation, and adds:

"I see there is a fine, noble, elegantly-written article from that gifted old man, Willoughby Newton, of Virginia, which makes me take pride in Virginia. If you can command such writers as Mr. Newton is, your paper will flourish. Few men have either his ability, or his skill in the use of the pen, and if it were known that from his pen an article would always be found in your periodical, many men, originally from Virginia, would subscribe to your journal for the single pleasure of reading what Mr. Newton writes about anything."

By referring to our Feb. No., Mr. L. will find the announcement by Mr. Newton of his intention of becoming a regular contributor to our pages in furthering the great object which he has so deeply at heart.

AN INQUIRY.—Some three or four years since, Messrs. Carter & Co., of the Chrystal Palace Nurseries, Sydenham, Eng., introduced seed of *Bromus Schræderii*, from Australia, under the impression it would prove a most useful forage plant. I commenced experiments with it, but circumstances prevented my carrying them out; however, from what I saw of the grass, I was rather favorably impressed with it, and would feel obliged to any reader of the *American Farmer* for any information respecting it. N. F. F.

Another.—A correspondent in Virginia, alluding to the great value of green corn fodder for stock, as suggested in Northern papers, inquires as to the best mode of curing it for winter use. It is mainly proposed for use for soiling purposes, but it is cured for winter feeding also. Will some of our friends who have practiced it describe their process?

Another.—Another correspondent asks for information as to the merits of the "Judson's Branching Corn." Collating the reports of numerous persons who have tried the corn referred to, and published their experience in the agricultural papers of the North, we observe that in very rare instances does it seem to have satisfied them, or come up to

the representations of the sellers of the seed. If any of our readers have had any experience with it we should be glad to hear from them. The *Dent* corn, of which the same correspondent makes inquiry, is, we believe, very generally approved of.

THE AMERICAN JERSEY CATTLE CLUB holds its annual meeting in Baltimore, on Wednesday, April 17. This is the first time the club has ever met in this city.

MARYLAND STATE AGRICULTURAL SOCIETY.—At the regular quarterly meeting of the Executive Committee, held March 5th, *Joseph H. Rieman, Esq.*, resigned the Presidency of the Association, and *George S. Brown, Esq.*, was elected to fill the vacancy. An effort is to be made to promote greater concert of action between the State and County societies, and arrangements effected, if possible, for the holding of their several fairs at such dates as will not interfere with each other. The Association proposes to keep on file at its rooms the agricultural and horticultural periodicals of the day, and to solicit for exhibition samples of the productions of the various counties of the State, and also to keep a list of the lands offered for sale in the counties, with a view to giving intending settlers information as to the soil, staple products, and advantages offered by the State.

Green Corn-fodder.—Dr. Nichols says the results at his farm indicate that this will not sustain a flow of milk in cows, even when it is raised under the best conditions, unless it is mixed with hay or grass; and that the fodder raised carelessly from broadcast sowing is of but little value in producing milk. It is undoubtedly greatly relished by the cows, and we think the experience of dairy farmers generally is different from that of Dr. N. One of these says he sowed in May an acre of corn in drills, and on first July commenced cutting and feeding to twenty cows. When the September rains came, he omitted the cornfodder for some days, and the decrease in milk was 2 lbs. per day for each cow; the cornfodder being resumed, the cows in four days regained their usual yield. Our own milch stock, when fed with it, certainly gave no indication of falling off in the production of milk, and we never saw them eat any other food with as great a relish as the cornfodder. Our only regret was that we had not provided a larger supply of it.

The Agricultural Convention at Washington.

This body, comprising delegates from Agricultural Colleges and State Agricultural and Horticultural Societies, called together by a circular letter of the Commissioner of Agriculture, met on the 15th of February at the Department of Agriculture, and continued in session three days. Twenty-nine States were represented by nearly two hundred delegates, embracing many of the ablest and most eminent representative men from all sections of the country. It was a fine body of men, come together to consult as to the best means of furthering the interests of agriculture, but with perhaps no very clearly defined ideas as to what was to be discussed or accomplished.

An organization was effected by making Dr. George B. Loring, of Massachusetts, President, with some twenty Vice Presidents, and R. F. Johnstone, of Michigan, Secretary.

Commissioner Watts read a lengthy paper, mainly relating to the needs of Agricultural Colleges. This subject of the needs and wishes of these institutions was the one which mainly occupied the attention of the Convention, and the chief results of its deliberation were petitions to Congress for appropriations of public lands for their benefit. This was largely due, of course, to the excess of their representation, nearly all of the Colleges, we believe, having delegates present, whilst many of the State Societies were unrepresented.

A series of resolutions was subsequently adopted favoring the bestowing of additional liberal grants of lands on Agricultural Colleges in the various States, and providing for a committee to urge the same on Congress. The committee appointed on Military Education in Agricultural Colleges reported in favor of such instruction, but the report was laid on the table and a resolution passed asking Congress to direct the Secretary of War to detail officers to teach engineering and military tactics in such Colleges as should desire it.

The committee appointed to consider the relations between the Department and the State Colleges and Societies reported that great good could be effected by their harmonious co-operation, and recommended a Convention to be held annually of representatives of such Societies and Colleges; also, that all Associations arrange for regular communication with the Department on important questions; that the Department circulate widely the information elicited from the State Associations; and that the latter give more attention to collecting statistical information for transmittal to the Department for publication in its reports.

Resolutions were adopted asking Congress for larger appropriations to the Department of Agriculture, to admit of the wider distribution of its publications and of seeds, and

also for one to enable it to publish the work on noxious insects prepared by Professor Glover.* Congress was also asked to create the office of Secretary of Agriculture, and to make the incumbent a member of the Cabinet. The Convention recommended the increase of the salaries of the Commissioner of Agriculture, the Superintendent of Gardens, the Statistician, the Entomologist and the Microscopist of the Department. The extension of the system of meteorological and crop observations was also recommended, and Congress was asked to provide for printing the proceedings of the Convention, which then adjourned to meet in February, 1873.

Great interest was manifested in the Museum of Natural History belonging to the Department, which, organized by Mr. Townend Glover, has grown under his management to very large proportions. Dr. Loring, in his address, said it deserved the liberal support of Congress, and that Mr. Glover, for its formation, was entitled to the gratitude of his country and of the whole scientific world.

Some of the speeches made in the Convention were able and eloquent, and the best of feeling prevailed generally. Even should the practical results of this meeting fail to realize all expectations, there can be but little doubt, we think, of the moral effect produced by the assembling together in council of the representatives of the agriculturists of the country, many of whom came great distances, not to achieve any personal or political purpose, but to lend their aid in promoting agriculture and agricultural education.

Corn Cobs as Feed.—An analysis of them by Dr. Nichols, of the Journal of Chemistry, shows they possess a considerable amount of fat and flesh-forming constituents, their nutritive value equalling that of the best oat straw, and exceeding that of rye or wheat straw. The meal made from them, however, cannot be perfectly digested unless the cobs are ground very fine, and the finer they are ground the higher their value, and the less liable to produce gastric disturbance. The corn in the ear should be thoroughly dry before it is ground, when there will be less difficulty in reducing it to a fine powder.

* It may not be out of place for us to state here that the work of Mr. Glover, referred to in this last resolution, is one which has employed many years of that gentleman's life, having been far advanced long before he became connected with the Department of Agriculture. Since he assumed his present position his labors upon it have been continued, but only in the time when not engaged in his official duties. Mr. G. is not only an enthusiast in science, but he is an artist and a student, and this work of his, for which not only all the drawings, but the engravings on copper, have been done by his own hand, and mostly at night, will long endure as a memorial not only of his genius and skill, but of a perseverance as laudable as it is rare. We happen to know that large offers have been made Mr. Glover, by private parties, for the publication of his work in the interests of science, and this recommendation we are sure had no instigation from him.—*Eds. A. F.*

Constitution of a Farmers' Club.

Having had sundry requests to publish a suitable Constitution, with the view of getting up Farmers' Clubs in various localities, we wrote to Mr. *Thos. Gorsuch*, the Secretary of the Gunpowder (Baltimore county, Md.) Club, to furnish us with a copy of his, as it is so simple and efficient that we think it can scarcely be improved upon. That of the Dulany's Valley Club, of the same county, is, we learn, similar to this:

CONSTITUTION OF A FARMERS' CLUB.

1. We agree to meet at 2 (or 3) o'clock on each Saturday afternoon preceding the full moon. When assembled we shall proceed to inspect the crops, stock, farming implements and contrivances of the member visited, and inquire into the modes of culture and general system of management pursued by him. A free interchange of ideas upon agricultural subjects will be expected on the part of all; and if any member is making experiments which are likely to be useful or interesting, we shall take special care to notice their progress and results.

2. It shall be both the privilege and duty of each member to criticise freely the arrangements that may come under his observation, and to propose any question or questions which he may wish to have answered, and, if he request it, the opinion of each member may be called for upon the subject.

3. The number of regular members shall be limited to fifteen, but it shall be the privilege of each member to invite any of his friends he may wish to meet the club at his own house.

4. Unanimous consent is required for the admission of a new member.

5. At the annual meeting in January a Secretary shall be chosen, to serve for one year, or until a successor shall be appointed. It shall be the duty of the Secretary to keep a book, in which the minutes of the meetings and the questions and answers shall be recorded, said book to remain in the keeping of the Secretary, but open to the inspection of any member. It shall be the duty of the Secretary to read at each meeting, at a suitable time, the minutes and proceedings of the preceding meeting.

6. The schedule of the monthly meetings shall be arranged by the Secretary, but members may arrange among themselves to make a change to meet any peculiar circumstance requiring it.

7. Each member will be expected to pay monthly to the Secretary (who is likewise Treasurer,) the sum of 25 cents, to constitute a fund for the purchase of standard agricultural works, or of periodicals as the club may direct.

8. We pledge ourselves to punctuality upon the meetings of the club, and to suffer only

sickness or some like unavoidable hindrance to prevent our regular attendance.

9. On assembling each month, we will proceed to organize by appointing a foreman, (or chairman,) for the evening, whose duty it shall be to ask in succession each member's opinion on any question that may be proposed.

10. An Executive Committee of three shall be appointed in January to act for the club when not in session, but whose chief duty is to propose subjects for discussion, which are to be announced one month in advance.

It will be seen by the above that but one regular officer is appointed, whose duties render it no sinecure, and for which he receives no compensation. The Chairman is appointed at each meeting for that day only, to preside over the deliberations. Generally it takes one or two hours after the club is organized for the day to examine the improvements, stock, crops, &c., of the host; they then return to the dwelling, where the good hostess for the day has prepared a substantial repast, which should be confined as much as possible to the products of the farm. After the viands have been dispatched, the club is again organized, and the subject for discussion is then announced, each member giving his opinion upon it—sometimes a vote is taken when a decided difference in views is manifested, to determine the preponderance. The meetings generally last till 9 or 10 o'clock, but it is so arranged that a moonlight ride is enjoyed in reaching their several homes by the members.

Baltimore County Clubs.—We received invitations to attend the meetings of the Dulaney Valley Club, held in January, at the residence of E. F. Jenkins, and of D. M. Matthews, in March, and also of the Gunpowder Club, in February, at Joshua Gorsuch's, all of which, from circumstances beyond our contract, we were obliged to forego. This latter club, at their last meeting, added to their Constitution a provision for the appointment of a Treasurer to relieve the Secretary of a portion of his duties.

King George (Va.) Agl. and Pomo'l. Club.—After the above was written, we received a copy of the Constitution and By-Laws of this association, of which the officers are, Dr. Richard H. Stuart, *Prest.*, Jno. F. Dickinson, *V. Prest.*, Francis C. Fitzhugh, *Secy.*, and H. Byrd Lewis, *Treas.*

OUR CORRESPONDENT, N. F. F., who is a florist of large and varied experience, and, as our readers know, of ability in communicating his knowledge to others, has charge of a house in the vicinity of this city, which, for taste in the arrangement of the plants and their healthy appearance, cannot, we think, be surpassed by many collections in this vicinity. This, at least, is the impression made on us by a visit we paid to it some days ago.

The Vegetable Garden.

WORK FOR APRIL.

Our notes in this department are made with reference to the meridian of Baltimore, and allowance must be made for any variation in latitude. Here, at the time of writing this (March 18), no out-of-door work in the garden has been done, and April, peculiarly the seed-sowing month, will bring double duties. We refer to last month's hints concerning hot-beds and the early sowings of seeds, as well as for a list of favorite varieties of vegetables. This month hot-beds need especial care. The neglect to give them air on a bright, warm day will probably cause the loss of weeks of labor and time, and great caution is needed, too, in properly protecting at night. In watering the plants, use tepid, not cold, water.

Give *Asparagus* a good dressing of manure, if it has not already been done. Do not plant *Beans* in open ground until danger of frost is over. Early Valentine and Black Wax are good sorts. *Beets* should be sown as soon as the ground will admit. *Cabbages* and *Cauliflowers* may be set out from the cold frames as soon as the ground is dry, and seeds sown in the open air. *Celery*, to be sown in the open air, should be put in as soon as possible. *Cress* is to be sown in succession every ten days. *Egg-plants* in hot-beds may be transplanted into other beds or into pots. *Herbs* should now be sown, and *Horse-radish* set out. *Lettuce* may be planted out. *Lima Beans*, *Melons* and *Squash* may be planted on pieces of sod in the hot-bed. Do not plant in open ground until it and the air are warm. *Onion* seed should be sown as soon as the ground is dry, and *Potato and Top Onions* put out. *Sweet Potatoes* should be started in hot-beds. Continue to sow *Tomatoes* in hot-beds. *Asparagus* and *Rhubarb* beds should be made at once. In drills, fifteen inches apart, may be sown *Beets*, *Carrots*, *Parsnips*, *Salsify*, *Spinach* and *Early Turnips;* and in seed-beds, in drills eight inches apart, *Brussels Sprouts*, *Cabbages*, *Broccoli*, *Cauliflowers*, *Celery*, *Endive*, *Kale*, *Kahl-Rabi*, *Lettuce* and *Parsley*.

For family use an early planting of *Corn* should be ventured. If it is killed by frosts the loss is a slight one; if it escapes, it may bring in a very early crop.

Early sown crops should be hoed. Keep the ground continually stirred, and this will destroy the weeds before they begin to grow.

Horticulture.

ON GRAFTING.

We do not think it is necessary to say anything upon the subject of grafting to those of the readers of the *American Farmer* of mature years, but we would like Young America to understand the process, and that is our only excuse for broaching the subject. Select the scions from well-ripened, short-jointed wood of the previous year's growth. We prefer that the stock be as nearly as possible in the same state of vegetation as the graft, whether in hard-wooded or in herbaceous grafting.

Many modes of grafting have been invented, but we think it is necessary only to describe the two or three methods most practical, the principle being the same in all, namely, to get the scion firmly united to the stock. In grafting upon young stocks, I have rather extensively used the one illustrated in Fig. 1, as it makes a very neat and strong

Fig 1.

Fig. 2.

union. The crown of the stock is cut at a long bevel, leaving only about an inch at the top square, cutting out an angular piece to receive the graft, and the scion, being placed on the back, or longest side of the stock, no heeling off is necessary, and the stock quickly becomes calloused over. In cleft or tongue grafting, Fig. 2, the top of the stock is cut across, and a longitudinal wedge-shaped slit is made, and kept open by a wedge until the scion is made ready. Sometimes two scions are inserted, one on each side the stock, when, if both grow, and are afterwards too close, one can be cut away. Some prefer to have but two buds on the scion, being careful to cut close to the one on the point of the scion, as in Fig. 2. We consider it of very little importance, although we usually cut the graft sufficiently long to have three buds, as shown in Fig. 1, as in this case should the terminal bud fail, from any cause, there are still two buds left. Fig. 3 is a strong and efficient method, styled whip-grafting; it is, however, little used, except when the stocks are large. The graft must be placed at one side of the stock, which is sloped, as shown in the cut, for the reception of the graft.

Fig. 3.

Another mode, sometimes practiced, is yet more simple, but we rarely use it, except for Salix, or something having very small scions. Having cut the stock horizontally, make three vertical cuts in the bark from one to two inches long; raise the bark with the spatula, or with a piece of hard wood shaped for the purpose; thin the scion and insert beneath the bark, bind and cover as in all other grafting.

The main requisites in good grafting are—supposing the stock and graft to be in good condition—to bring the liber of the scion into contact with the liber of the stock, and to keep it so by binding, covering to keep out the air, until a union is effected.

Herbaceous grafting is seldom necessary, except in nurseries, &c. It is different from hard-wooded and root grafting, and is more difficult to perform, and as it is so seldom used, we do not think it necessary to describe it. There is, however, a subject which it would, perhaps, be well to touch upon in connection with this, viz: the influence of the stock upon the graft, which is as yet but very imperfectly understood, even by those who have made it a special study. We may, however, deduce some useful facts from the knowledge obtained.

In localities where trees naturally grow very luxuriant it is not advisable to plant dwarf fruit trees, as in such situations there is much greater difficulty in keeping them dwarf and fruitful, whilst in places where trees are naturally of a short-jointed, dwarfish habit, and of slow growth, we may plant dwarf fruit trees with reasonable hope of success. In this we may take a lesson from nature, and, were I about to plant an orchard, I would pay particular attention to the growth of trees in the vicinity, and plant accordingly. Thus, if tree growth was strong and vigorous, I would plant robust growing kinds, and *let them grow*, and *vice versa*. Nor do we think it good policy to sow seed and graft upon the seedlings promiscuously, as is so often done; it certainly has a more scientific appearance

to select the stocks according to the variety of fruit to be grafted thereon. Double working has a good effect in some cases—that is, grafting upon a stock and permitting the scion to grow for a season, then grafting upon it. There are districts where favorite varieties of apples and pears do not thrive satisfactorily, and in such places it is worth while to try double grafting. In connection with orchards, shelter is not sufficiently considered. We know an orchard where the trees would not fruit, nor scarcely grow, until the belt which had been planted for shelter had grown up, but since that time the trees have grown luxuriantly, and borne fruit in abundance. N. F. F.

[*Reported for the American Farmer.*]

PEARS: Varieties, Cultivation, &c.

Proceedings of Chuckatuck, Va., Farmers' Club.

January meeting, held in Masonic Hall, Chuckatuck. Subject for discussion: "PEARS: what varieties most suitable for this section, (especially in point of profit): mode of planting, and subsequent management in health and disease and other causes of failure," &c.

VARIETIES.—*Moore's Pound*, (or what is known by that name in this section) we place first and foremost from the fact that it thrives as if in its natural home; always healthy, vigorous, and never failing to produce a fine large pear, which, coming before peaches, brings a good price.

Beurre Clairgeau—seems to try to outdo itself; a fine colored, fine sized fruit naturally, it here becomes the finest in color and size, and is fast winning its way in the markets. Comes with Duchesse d'Angouleme.

Boussock—Large, showy, lemon-colored; very juicy, melting; good quality; tree healthy and gaining in favor each year.

Beurre d'Anjou—Large, colors up well, of good, rich, vinous flavor; its good keeping qualities place it in the lead of early winter varieties—true, hardy and reliable.

Lawrence—Only medium in size, good quality, rich aromatic flavor, lemon color—keeps well into winter.

Beurre Bosc—Of beautiful size and color, rich, sweet, juicy; perfumed flavor; in growth and bearing quite similar to d'Anjou. These latter coming after the bulk of the peaches are over, we are disposed to recommend them above the Bartlett; and even Howell and Seckle before Bartlett, they being remarkably healthy growers and reliable bearers, whereas of all pears the Bartlett is the most unhealthy and unreliable, and we would venture to say there are near as many losses of that one variety as any other ten different sorts.

Duchesse d'Angouleme—Probably most successful of all pears, as Dwarf; (so well known as to need no description.)

Easter Beurre—Large size; the richest, sweetest and juiciest of all pears, surpassing other varieties in its keeping qualities; good through winter. We do not recommend Dwarfs except for the two latter, but to secure *them in perfection*, we decidedly do, since *they* succeed best on the quince. [And whilst speaking of Dwarfs will here state, that I have just been occupied in moving some two years old, two years planted—(making them four years at this time, and some of which the past season bore some fruit,)—when set out they were put some two or three inches deeper than point of budding, and I now notice that most of them have thrown out fine healthy roots from the pear above the quince.]

For family use in early summer there are two other varieties—though small in size they stand so high in taste and flavor I cannot pass them over—*Julienne* and *Rostiezer*.

MODE OF PLANTING.—For all fruit trees, but pears most especially, would recommend well drained land, in good heart, (clay subsoil preferred) well plowed and harrowed to fine order; lay off rows, from 18 feet to 25 feet, and then check square across, running twice to the row with large size plow, which will be a great saving in digging the holes; be particular to run the row straight.

MANURES.—Plant trees in these checks, spreading roots out carefully, and fill well in between them with fine mellow soil; use your manure (*ashes* and *well rotted* compost preferred,) on or near the surface; after you have gotten the dirt well settled around the roots, give a good mulching of marsh hay, straw, or if nothing else wood-litter; but mulch by all means, as thereby you save your trees in the transplanting, save them from cold freezes, from cutting winds, from hot suns, and from drouth, and is also a great saving in the cultivation, as it will cause an abundant growth, which will mature; thus in a measure being one of the best, if not the best, preventive, of the most formidable disease of the pear—blight—since it is generally conceded that late immature growth is the principal cause of this disease; and as it is one for which they have found no cure, it is the more to be dreaded. Sometimes we manage to arrest its progress by cutting off the limbs *below* the diseased parts, but even this often fails, or proves of little benefit.

In PRUNING.—At the time of transplanting, the present object is to establish a balance between the top and the roots. If the roots are much cut, then the top should be pruned back in proportion, for otherwise the full top with its many leaves will be more than the mutilated roots can properly sustain, and thus the whole tree becomes stinted—unhealthy. The future object should be to have a fine, even-shaped, well-balanced, fruitful head, then combine the two objects into one, and try as much as possible to make the one pruning at time of transplanting do for both purposes and for all, except when it may become necessary to bring back some branch that is straying from its proper place.

CULTIVATION.—The pear, like all other fruit trees, should be well cultivated, and the soil kept soft and friable—free of weeds by constant stirring, or what, as above stated, has in some cases answered even better still—*well mulched*. MORE ANON.

Notes from a Fruit-Grower's Diary.

[*Communicated for the American Farmer.*]

February 7—Trimmed the Delaware and Concord vines on the Spring-House hillside. Planted them in 1861-3, and are now satisfied that the Fuller, or low arm system, is not the one for us. The plants mildew, and the fruit seems to taste of the damp ground. My vines are planted 8 feet apart, and are 8 to 12 inches from the ground, with wire between the runners. This does not answer, as it sags and breaks the runners; the wire becomes loose, and costs too much, say 50 cents per vine. Some Concords are planted after the same style, with *laths* for braces between the runners, on the Knox system. I used some picket strips rived out, and which, in money, cost me about 3 cents per vine, 10 feet apart. The first are now about good for nothing, and the second can be repaired in a few minutes, and never sag. Horizontal wire, with posts twenty feet apart, is of comparatively no account.

February 23—Trimmed a few apple trees. Find that the old-time Green Pippin is about "played out," and not worth the ground the trees stand on. Perhaps the diseased grafts from the old trees are the cause, but for this I am not responsible. One good King of Tompkins county is worth more than a dozen of them, and the fruit is better when you get it. *Always use good grafts* from healthy trees previously grafted, and not, from a penny wise and pound foolish policy, from suckers. If practicable, get them from trees known to yourself, or of some one whom you can trust.

Baltimore county. H. K.

The Apiary.

ITALIAN BEES.

By an Experienced Breeder. For the American Farmer.

The superiority of the Italian (or Ligurian) Bee over the Black (or Native) is so well known to the advocates of improved bee-keeping, that it seems almost useless to write thereon. Believing that very many bee-keepers are not yet well informed regarding their many points of superiority, I will endeavor in some few particulars to describe what I consider such points.

1st. Ease of handling. The disposition of the Italian as compared with the Black, is well represented by comparing a pet kitten to a wild cat. At any time they can be handled and manipulated in perfect safety, when it is impossible to do anything with blacks. To illustrate. It is a well known fact that the worst time to control and handle bees is late in the fall and early in the spring, being caused by the entire absence of flowers to employ the bees in gathering honey. Notwithstanding, on Feb'y. 20th I opened ten stocks of Italians, removed from the hives every frame of comb, carefully scrutinized and examined each, and replaced within the hive without using any means to tame or control the bees in the least, and did not receive a single sting, although entirely unprotected. Becoming fearless, I undertook to perform the same with a stock of blacks that were sitting within two feet of the last stock of Italians I examined, the result was, I received five stings in less than one minute, and was compelled to smoke them into subjection before completing the examination. It is not unusual for me to open and exhibit to strangers a stock of Italians I am keeping during the winter in my bed-room, when surrounded by children from five to nine years of age, and to the present time no one has been stung by them. I would not dare to do it with blacks, and never saw any one who would.

2d. Early breeding. The stocks of black bees that last November I introduced Italian queens to, are fifty per cent. stronger than the ones that have black queens. At that time they were the weakest. All are in the same kind of a hive and within fifty feet of each other; and as no honey has been gathered or given to accelerate breeding, I think the difference must be in the kind of bee.

3d. More industrious and better honey-gatherers. The Italians being larger can reach the honey receptacle of many plants the blacks cannot; therefore, during a scant honey harvest, will find more sources of supply. The size of their honey sac also permits the carrying of a larger load, consequently a saving of time in flying to and from the harvest field. Their increase in spread and strength of wing also enables them to fly more rapidly and farther in their search for Nature's nectar, thus giving employment when the black would have culled his circumscribed territory, and remain clustered about the hive for want of "fresh fields and pastures new" placed within their reach.

My experience is as above. It is claimed by very many others that they swarm earlier and cast larger swarms; as I do not permit my bees to swarm I cannot speak upon this point. Those desiring to improve their bees, should carefully examine and become satisfied as to the Italians' points of superiority before investing or making a radical change. Such as will carefully investigate, I do not think will have black bees more than one more season.

Live Stock Department.

MUIRKIRK STOCK FARM.

In coming from the Agricultural Convention at Washington we stopped over to look at the Short-Horns at Muirkirk, in Prince George's county, Maryland, the residence of Mr. *C. E. Coffin*, who, in a comparatively short time, has gotten together a herd which, in number and value, compares very favorably with many much longer established.

The herd at present numbers some forty head, but some changes are being made, both by additions and sales. The breeding bulls are the Sixth Earl of Oxford, Lord Abraham, and Lord Mayor. The Earl, a roan about 2½ years old, bred by James O. Sheldon, of Geneva, New York, is a compact, handsome animal, very good about the quarters, with a wide, broad back, and of good style and carriage. Lord Abraham, an imported roan bull, bred by Mr. Torr, of England, is about 3 years old. He is not a full Booth animal, but has several crosses of that distinguished blood. He is very thick through the heart, and is an excellent handler. Negotiations are pending, as we are informed, for letting him out to a breeder of Piedmont, Virginia—a plan widely adopted in England, though unusual here, but one which for many reasons is to be commended. Lord Mayor, red, is of the Princess family, and is a very large even animal, only recently added to this herd.

Of the cows, Masterpiece seems to be the pride of the herd. She is a roan, now six years old, and the portrait we gave of her in the last number of *The American Farmer* is a very fair representation of her well-finished and comely shape. Nellie and Blossom, the former red, the latter roan, are both handsome, well-shaped, full-shouldered cows. Portulaca is an imported heifer, bred by Mr. Christy, Chelmsford, Essex, England, and is descended, through a long line of good blood, from Mr. Allison's Red Rose, by Mr. Booth's Columella. She has a beautiful head, and is well packed in crops and rump, of good square shape, and with a soft, flexible touch. She will doubtless leave good marks on the herd. Blanche, a neat-shaped white heifer, several Elvinas, Maiden, a handsome red heifer, with others we have not space enough to describe or name, and several males, yearlings or under, make up the balance of the herd.

All the herd, except the bulls, were in the fields. They are all fed on hay and roots, no pampering being practiced, and all seemed in good healthy condition.

Besides Short-Horns, Mr. Coffin is a breeder of Berkshires. In his well-arranged pens are found some very handsome pigs. Several of the best-bred animals were imported from England, through Mr. Cochrane, of Canada, and are excellent types of the breed. From these pens numerous sales are being made, particularly to the South, where the Berkshire is undoubtedly found far superior to any of the white breeds, and, with the Essex, will probably eventually drive them out.

Near the house we found some fine Buff and Partridge Cochins, and probably a hundred *Spring Chickens*, hatched though about Christmas, and as lively as if the day had been one in May.

Since our visit Mr. Coffin informs us that he has added to his herd, by purchase from Messrs. Walcott & Campbell's New York Mills Herd, the fine Booth bull Royal Briton, bred by Mr. T. C. Booth, at Warlaby, and claimed to be the best Booth bull ever in the United States; Bogart, a yearling bull by the Fourth Duke of Geneva, out of Boquet Third; Britannia Eighteenth, an imported cow, 4 years old; Victoria Eighth, a 2-year old heifer by Fourth Lord of Oxford, 5903; Rosamond Ninth, a white yearling heifer by Royal Briton, out of Rosamond Seventh, by Weehawken, said to be a magnificent animal; and Water Nymph, a roan heifer calf by Royal Briton, out of Water Lily, an imported cow of Mr. Torr's celebrated Waterloo family.

From these additions to the Muirkirk herd the most favorable results may be expected, and Mr. Coffin, who carried everything before him at Baltimore, Richmond and Wytheville last year, will probably be still more successful this, and greatly add to his reputation as an enterprising and successful breeder.

Fine Milking Stock.—Mr. Howard, editor of the "Plantation," gives an account of a bull just sold by him to Dr. J. F. Alexander, of Atlanta, Geo., a cross of a thorough bred Patterson Devon bull upon an Ayrshire cow. We give the statement of Mr. H., who challenges the dairymen of the U. S. or of any other country, to beat the product of the mother of the bull he has just sold, and we think she will be hard to beat, but Mr. Rice, in his paper published in the Feb. No. of the *American Farmer*, notices an Alderney cow imported by Mr. Taintor, of Conn., which was said to have made a pound of butter from less than four quarts of milk. Mr. Howard says:

"The sire of this fine bull was a thoroughbred Patterson Devon. The sire of the dam was the Ayrshire bull, Corehouse, selected by us in Scotland—the finest Ayrshire that we have seen on this side of the water. She yielded one and a half pounds of butter daily during the flush of the milking season at seventeen years of age. In this connection we will venture upon a statement which we have heretofore hesitated to make. The average of English cows, fed upon clover and

other similar food, is a pound of butter to sixteen quarts of milk. The average of our cows, fed upon ordinary summer pasture, is a pound of butter to eleven quarts of milk.—The largest yield of butter, it is to be observed, is not from clover or other succulent food, which makes the milk watery. From the middle of April to the middle of June, a good woods-range gives the richest milk and the most butter from a given quantity of milk of any other cow-food with which we are familiar. After that time the wood's grass becomes hard and worthless.

"We believe that the largest yield of butter from a given quantity, which has been published, was in the case of an Alderney cow, which gave a pound of butter to seven quarts of milk. Tina, the mother of Dr. Alexander's bull, gave nine quarts of milk, which yielded one and a half pounds of butter, that is, a pound of butter to six quarts of milk. This statement was made to us by our better-half. We thought there must be a mistake. The measurements were made again with the same results."

With such evidence as this, as to the practicability of establishing the Dairying system even in the far States of the South, what is to hinder Virginia, North and South Carolina, as well as Maryland, from entering into this business, as one of the practical means of resuscitating their lands from the prostrate condition in which they are now found.

The Dairy.

Grasses for Dairy Stock.

Prof. X. A. Willard, one of our best authorities on subjects connected with Dairy farming in naming the grasses most esteemed for producing a high priced butter, says he is sustained in his decision upon the subject by a record of long and well conducted experiments, which have proved their utility, though it is possible that climate and soil may so modify the character of these grasses as to render them less valuable in other localities than among the butter dairymen of New York. The experience of farmers noted for their success in a particular direction is, however, more or less suggestive and valuable, and the record is furnished subject to any modification that may be found necessary in other localities than those in which the experiments have been made.

On old plantations of the butter districts (he says) there are several varieties of grasses that spring up spontaneously, and are much esteemed as affording sweet and nutritious feed, from which the best qualities of milk and butter are produced. These grasses form a dense solid turf, leaving no intervening spaces. They embrace the June, or blue grass (*Poa pratensis,*) the fowl meadow-grass (*Poa serotina,*) meadow fescue (*Festuca pratensis,*) red top, (*Agrostis vulgaris,*) the wire grass (*Poa compressa,*) the sweet scented vernal and vanilla grass, together with timothy (*Phleum pratense,*) orchard grass (*Dactylis glomerata,*) clover and other forage plants.

The June grass (*Poa pratensis,*) is regarded as very valuable; it throws out a dense mass of leaves, is highly relished by cattle, and produces milk from which a superior quality of butter is made. It is found growing throughout the butter districts of the country. The wire grass (*Poa compressa,*) is deemed one of the most nutritive of the grasses; is very hardy, eagerly sought after by cattle, and is one of the best grasses for fattening. Cows feeding upon it yield milk of the richest quality, from which the nicest butter is made. It flourishes well upon gravelly knolls and in shaded places, and its stem is green after the seed has ripened. It is found growing in all parts of the country.

The meadow fescue is common in old grass lands where the sod is thick, and grasses of different varieties are mingled together. It starts up early in the spring, is relished by stock, and furnishes good early feed. The milk farmers hold it in high estimation as a reliable grass, tenacious of life, and not running out like timothy (*Phleum pratense*) or clover. The white clover (*Trifolium repens*) springs up spontaneously in the old pastures, and is highly esteemed as giving flavor and quality to butter.

The sweet scented vernal grass grows best upon the moist soil of the old meadows It starts very early, and gives off an agreeable odor.

In connection with this subject, we copy from the South Land, the following paragraph as to what grasses can be raised in the South:

"Grasses for the South.—We have the Bermuda, which is peculiarly ours, and as a hay or herds grass it is without a superior, yielding two to five tons per acre according to fertility and preparation of land. Then we have the herds grass, the orchard grass—a magnificent success—the Italian Rye grass, the Perennial Rye grass, and many others that are reliable and valuable. Then we have the crab or crop-grass, the adaptation of which to our climate and soil is undisputed, and which, cut at the proper time and cured without too much sun or dew, is very little if any, inferior to that for which we now pay $37 per ton."

The Fireside.

PROCRASTINATION.

Shun delays—they breed remorse;
Take thy time while time is lent thee;
Creeping snails have weakest force;
Fly thy fault, lest thou repent thee;
Good is best when soonest wrought;
Lingering labors come to nought.

Hoist up sail while gale doth last;
Tide and wind wait no man's pleasure;
Seek not time when time is past;
Sober speed is wisdom's leisure;
After-wits are dearly bought—
Let thy fore-wit guide thy thought.

Bow Bells.

WOMAN'S INFLUENCE.

Although we are taught by Revelation that woman was first found in the transgression, and the first agent of "the serpent" to beguile *man*, 'tis strange to say, ever since, and with rapidly increasing force, has her's been the moral lever that moves the destinies of mankind. With that silent and all-pervading influence, her mission has been one of Love and a God-send to the nations of the earth. The wisest of men declared her price to be far above rubies—*i. e.*, virtuous women, and of that class are those of whom I write (casting in the meantime the mantle of pity and charity over the erring *few* in various localities of earth).

Unconscious herself of her powers, she moves on through all the meandering lanes of life, and like the little rivulet, which sparklingly glides along through the green meadows, dispensing its cool waters to the flowerets on the way, and gently threading its course into the great Ocean of Truth; or, like the bubbling fountain, which springs up in an oasis of the parching desert, to refresh and gladden the way-worn pilgrim, does she dispense and gladden by her holy influence, her joyous smiles, the care-worn soldier of life. With a heart ever gushing from the warm fount of sympathy and affection, and an ever-ready tear to let fall in pity on the unfortunate, and a hand ever open in charity to the needy, she is pre-eminently Heaven's best gift to man. Emphatically the teacher and ruler of nations (through duty), moulding the plastic mind of infancy, directing the first drawn arrows of intelligence with unerring accuracy to the target of truth, and ever afterwards controlling her well-made impressions by the stimulating force of her mesmeric example, she is beyond cavil the judicial, legislative and executive force of the government, and she will not find it necessary to call in any auxiliary or adventitious aid in the shape of the ballot to wield her sceptre, for all admit the right of her sovereignty; and though delicate in her physical organism, she is far superior to man in her quickness of perception, her tenacity of purpose, her depth of zeal, and fearless nerve in time of danger, for she—not man—was last to leave her forsaken Master, and, with unwavering faith and affection, first to welcome and proclaim His joyful resurrection.

May her influence, like the ripples made by the pebble cast into water, continue to widen with the ever-widening cycle of time, until it breaks only on the great shore of a happy eternity.

Jno. D. Thorne.

DOMESTIC RECIPES.

Miss Milly's Cheap Plum Pudding.—One and a half cups of milk, one cup sugar, three cups of flour, one of suet, one of raisins, one of currants, one teaspoonfull of soda, two teaspoonsful of cream of tartar. Mix well and boil three hours.

Poor Man's Sauce.—Half a cup of wine, half a cup of water, half a cup of sugar, a piece of butter the size of an egg, the yelk of one egg, stir well together and let the mixture come to a boil.

Rich Man's Sauce.—A quarter of a pound of butter, creamed, three quarters of a pound of sugar, the yelks of three eggs beaten light, four wine glasses of wine, the grated peel of a lemon, a small nutmeg. Mix, stir well and let it come to a boil.

Lemon Meringue Pie.—One lemon grated, one cup of sugar, one of milk, one tablespoonfull of flour, the yelks of three eggs. To make the meringue take the whites of three eggs and one third of a cup of powdered sugar. Bake the pie first by a slow fire, then spread on the meringue and bake only five minutes.

Muffins.—One pint flour, two eggs well beaten, as much milk as will make a suitable batter with these, with a little sour cream if you have it. Add a small piece of butter or lard. Then dissolve a teaspoonfull of soda in a tablespoonfull of cold water and not quite as much tartaric acid, stir it in just as you are going to bake them.

An Omelette.—Four eggs beaten separately, one small teaspoonful of milk, a piece of butter the size of a walnut, melted and put in the milk an even tablespoonful of flour. Put in lastly the whites of the eggs well beaten, bake in a quick oven, either in a tin or earthen pan.

Apple Pudding.—Take a yellow dish, put in it apples chopped fine, a layer of bread grated fine and well buttered, grate over it nutmeg to taste, do this alternately till the dish is full, and then pour one glass of wine over the whole. Sugar the apples to the taste. Bake till brown.

Breakfast Short Cake.—Two cups buttermilk, one-half cup of cream, heaping teaspoon of soda, one of salt. Stir in flour to make a very stiff batter. Bake in a well buttered tin, in a hot oven.

EXTRA SHEET.

☞ **Erratum.**—In Mr. Newton's communication, on page 129 of this No., in the 22d line from the top of the first column, the word "*Lear*" should read "*hive.*"

A SUPPLEMENTARY SHEET.—The pressure upon our pages of original articles, suited for the season, and which, if not published this month, would be too late for the object of their preparation; together with an influx of advertisements over-running our advertising sheet, has induced us, at considerable cost, to make an addition to the number of our pages for the April No. And yet, even with this aid, we are compelled, very reluctantly, to omit a number of other valuable contributions from esteemed friends and correspondents, for which we will endeavor to find room in our next, with the satisfactory confidence that they will not spoil by the delay. Among those thus omitted are the following:

A continuation of the interesting history of the Short-horn Cattle, by Mr. Coffin, commenced in our last.

Several papers in reply to Mr. Newton's question, "What shall we do?"—one by Mr. Chas. Mason, of King George, Va.; another by "Spectator," of S. C.; and a third by Mr. E. J. Peck, of New Jersey.

A paper on Pear Culture, by "L. W. G.," a very intelligent cultivator near this city, whose high estimate of the value of the Bartlett pear is the very opposite of that held by the Chuckatuck Club, as given on another page.

A History of the Stassfurt Mines of Germany, by Mr. W. Grange; also a contribution on the Constitution of Superphosphate of Lime, by Prof. P. B. Wilson, of Baltimore.

A paper on Sheep Breeding, omitted last month; an extract from a lecture of Dr. Nichols on manures, which has been in type for two or three months; one on Soiling, by Mr. Wilkinson; and other articles on Poultry Raising, &c., we hope also to find room for in our next.

A Valuable Implement.

We desire to call the attention of our readers to an implement of comparatively recent introduction, which we think will promote the better preparation of the land, and also aid in the much-to-be-desired object of saving hand labor. We refer to the Smoothing Harrow invented by Mr. J. J. Thomas, who is well known as an agricultural writer, and the author of a standard work on Farm Implements.

The Harrow consists of a framework in sections, in which are affixed slender, round steel teeth, sloping backwards at a fixed angle, with also a little inclination sidewise. This angle is that which a knife or other instrument takes when a "draw cut" is made, and the teeth so set are most efficient in comminuting the clods over which they pass. These slanting teeth will not clog; being steel, they will keep bright by use, and, being small, they do not meet with anything like the friction from the resistance of the soil encountered by the old-fashioned square harrow teeth. This pulverizing power, freedom from rust, and light draft, constitute the important improvements in this Harrow, which is the result of many years' thought and experiment.

Its uses are various. It is adapted to all the purposes to which the ordinary harrows are applied, and does all such work in a manner superior to them. For cultivating wheat and other grains it has been employed with very satisfactory results, its use increasing the yield, according to the testimony of practical men, from 3 to 5 bushels per acre. For putting in clover and timothy, it is claimed, nothing can surpass it, whilst its operation in spreading manure is very satisfactory, a gentleman who used it for this averring that it "does the work of twenty men, and far better than by hand." Many market-gardeners and nurserymen bear evidence of its value as particularly adapted for their work. It is, however, to its use in the cultivation of potatoes and corn that we wish at present more particularly to refer, the cost of raising these staple crops being thereby very much diminished. For potatoes the ground should be thoroughly plowed, harrowed and cross-harrowed, furrows marked with a corn-plow, and the potatoes dropped in drills and covered with the harrow, leaving the ground level and smooth. Just before the plants appear harrow again, thereby destroying all starting weeds and mellowing the ground. Repeat the harrowing every few days, until the potatoes are large enough to hill up.

Corn should be planted about two inches *below the surface* of the ground, not *on* the surface covered with a mound of earth. Harrow just before the corn makes its appearance, and again as soon as it is fairly through. Continue every four or five days to harrow, driving right broadcast over the corn, until it is a foot high. It may require some pluck to do this at first, but a fair experiment will show injury to but a trifling proportion of the plants, the corn being well rooted, whilst the weeds, germinating near the surface, are entirely destroyed. A material advantage in using the Smoothing Harrow is that drilled corn can be worked as easily and cheaply as that in hills, expensive hand-working being entirely superseded. The corn crop raised in this way becomes, in reality, a cleaning crop, the weeds being destroyed as quickly as they sprout—the whole success of the plan depending on this being done, since, if the weeds

ever get as high as the corn, the Harrow will be as powerless in destroying them, as it is harmless to the corn.

Some object that the teeth, in passing over the corn, will tear it to pieces, but such is rarely the case; the teeth, being round, thin and slanting, pass between the plants, but catch and up-root the weeds. The draft of the Harrow is light, and some of the styles are provided with seats, so that a small lad can ride and go over in a day twenty acres of corn; and, with a good team, *keep clean* one hundred acres.

The Harrow has been widely tested, and the reports made by those who have used it are unusually favorable for a new implement. A committee of the Farmers' Club of the American Institute tried it thoroughly, and made a very favorable report upon its value for pulverizing the surface and for killing weeds and stirring the soil around young crops without materially uprooting them—and they recommend the Harrow as "simple, rational, effective and satisfactory to the tiller of the soil." This recommendation is endorsed by many practical farmers.

We have not yet used the Smoothing Harrow ourselves, and with most implements, not having done so, would hesitate to make any general recommendation for its employment, but with this one the published testimonials as to its effectiveness are so authentic, and from sections so widely diverse, that, concurring as they do with the results of its use by some of the best farmers in the vicinity of this city, who speak most favorably to us of it, we commend it to our readers as worthy of their attention and a thorough trial.

We expect to do this for ourselves the present season, and will give our experience in due time in our columns, and would be glad to hear that of others using it. In our next we will give an engraving of this implement.

Compost for Cotton.

Messrs. Sands & Son, Eds. Am. Farmer:

I propose the following formula for a compost for cotton. For 4 acres, wood mould or muck, 150 bushels; Peruvian guano, 200 lbs.; cotton seed, 80 bushels; wood ashes, unleached, 60 bushels; plaster, 2 barrels. To remain in bulk some 6 weeks and to be kept moist. At time of hauling out, mix thoroughly and drill in. This quantity would cost about $32 ($8 per acre) and I think on properly prepared, moderately fair land, would produce 4 bales cotton, or 1 bale per acre, leaving a profit of $72 per acre outside of other expenses, which we will name as one-half of $72, say $36 per acre clear.

What do you think of this proportion and mixture, or what would you suggest in change or addition? Would a bushel or two of salt be an advantage? Yrs. very respt'y,

Littleton, N. C. JNO. D. THORNE.

[This formula would make an an excellent manure; the addition of 150 to 200 lbs. of bone dust would be an improvement in supplying more phosphoric acid, which is a considerable ingredient both in the lint and seed of cotton, and the salt would also, we think, be advantageous.—EDS.]

Clover Seed.

To the Editors of the American Farmer:

The past year was the most propitious I ever remember for the crop of clover seed. My neighbor, Mr. Wm. Brown, a self-made man, and one of our best farmers, raised a fine crop. Two acres, which was much lodged, preventing a perfect saving of the whole crop, he cut, stacked and thrashed to itself, to test the yield. He cleaned twelve bushels from the two acres, or six bushels per acre, of nice, clean seed, weighing sixty-four pounds to the bushel. He sold the most of his crop at $7.50 per bushel; the result was $45 per acre, after yielding a good crop of hay for the first crop. The hay is housed and fed to beef cattle in the winter, among which Mr. B. now has a pair of oxen, one of which weighs 2,000 pounds.

Mr. Brown says any industrious young man who will buy or rent ten acres of land, manure it with 500 pounds of bone dust per acre, plant in potatoes; the potatoes to be followed with rye; this to be followed with clover; the first crop for hay, and the second for seed—will find from the aggregate sales and the foundation this gives him in farming a very good start in life. Who will gainsay it? Mr. B. started in life with much less than this, and now has three farms, money at interest, and a plenty of this world's goods around him. I also know a German, who rents ten acres of land near the city, pays $30 per acre rent, buys more than $30 of manure per acre; employs three hands, besides his own labor—two at $12 per month each, and one at $18—lives well, and is making money upon his lease.

Mr. Willoughby Newton, in noticing my article upon tenant farming, thinks I must have saved the value of my slaves He is mistaken. Like him, I lost them all. Some went to the army, some to the cities, a few remain about the old homestead, but none, I fear, much improved in condition, while some have utterly gone to the dogs.

Yours, truly, A. B. DAVIS.

On the Culture of Corn.

BY A MARYLAND FARMER.

To the Editors of the American Farmer:

The introduction of Indian corn into use as an article of subsistence for the animal kingdom is, perhaps, the greatest benefaction from the new world to the old. It is difficult to estimate the value of the corn crop to the people of the United States.

To make from forty to one hundred and thirty bushels of corn per acre, it is necessary

to have good land, well manured, a good season and thorough cultivation. In Nebraska, the land will make, with manure, ninety bushels of corn per acre; without manure the yield will not exeeed forty to fifty bushels per acre.

The art of manure-making is important to the corn-grower. Wet straw, or corn-stalks, or litter, is not manure. The raw material should be animalized—should pass through stables, or hog-pens, or barn yards. In Lancaster county, Pa., a model county, some farmers, with one hundred and fifty acres, buy and feed forty beeves, so as to secure the best article of manure.

Ploughing for corn ought to be done in the fall, in the winter, or as early in the spring as practicable. Early planting is best as a rule. Land ought not to be ploughed too wet. The soil should be broken six to nine inches deep—a little below the sub-soil—then manured, then harrowed, then cross-harrowed with a heavy harrow until in good condition. The manure is thus incorporated with the surface soil, will prevent washing in case of heavy rains, and hinders evaporations. Surface-manuring is especially important in dry seasons.

The corn should be planted in checks three and a half feet distance each way, three grains in a hill, thinned to two stalks. Three or four or five days after planting the corn, before it is up, should be harrowed with a lighter harrow thoroughly, for the purpose of destroying the germs of grass and buds. In thus harrowing, close up furrows, break clods, level the fields A few days after the corn is up, harrow again, so as to prevent the growth of grass and weeds, and to break up the crust which is formed by showers on newly plowed fields. The dews and rains are more beneficial on light and open soils. A few days after harrowing, plough the field with a double-shovel plough, and repeat the ploughing every six or eight days until the 10th of July; after which time ploughing injures corn, especially in dry seasons. In the second and third ploughing the ground should cover all weeds and grass near the stalks of corn.

Rule 1st.—Plow when the ground is in order six to nine inches deep.

2. Manure after plowing and harrow thoroughly. Light crops follow light applications of manure.

3. Four or five days after planting, harrow the field.

4. Three or four days after the corn is up, replant, and then apply one hundred pounds ground bones and a bushel of plaster, and two or three or four bushels of wood-ashes to each acre, and follow with the harrow immediately. The hoe is a favorite implement if attainable.

5. Take two successive crops of corn from the same field, then two crops of wheat; then let it remain in clover two years. Mother earth requires repose and nourishment to retain and increase its fertility.

6. Corn is a greedy feeder; therefore manure heavily.

7. Corn in this region can be planted in the latter part of April, and up to the 20th of May.

THOMAS MADDOX.

Washington Co., Md., March 18, 1872.

N. B.—John Simms, Esq., near Leonard-Town, St. Mary's Co., Md., made 128¼ bushels of corn to the acre some forty years ago. Wm. R. Barker, Esq., near Woodville, Prince George's Co., made 90 bushels corn per acre on a field of 30 acres some 30 years ago.

The Florist.

Floriculture, &c.—April, 1872.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Over the major part of our country, where these notes will be read, the backward influences of the severe cold weather in the early part of March, must have been much felt, thereby retarding planting and other ornamental improvements. Such reverses should in no wise blunt our zeal, but rather stimulate to greater efforts during the short remaining season.

In the conservatory and greenhouse, after the endurance through the long winter we have passed, of the constant application of fire-heat, there must be evidences of its weakening influence on many plants; therefore, as we hinted last month, means should be taken to have as many of them as possible removed to cold frames. These should, during cold nights, be protected with wood covers or straw mats. If the plants have from close confinement become etiolated, or drawn up with weak stems, pinch the tops out before placing them in the frame, and they will not be long in sending out young branches. This removing of plants intended for the open grounds in summer into these frames, is highly beneficial, as tending to make them more robust and stocky.

Camellias, when in bloom, as well as when they are making their growth, should be partially shaded, either by blinding the glass with a thin whitewash, or what is still better, a screen of muslin. We prefer potting Camellias just before they begin to grow. The soil most suitable is two parts loam to one of decayed leaf-mould and sand in equal proportions, placing good drainage under them. After shifting, the atmosphere should be kept warm, moist and close.

Azaleas are another popular and showy tribe of plants, requiring more light and air than Camellias, and although more imposing when in flower, are less ornamental in their foliage. The soil best suited for them is a mixture of sandy loam and decayed vegetable matter. Cuttings of all the varieties root freely when taken off just when the plants have finished their growth. The weak growing sorts are multiplied by grafts of the young wood, on stocks of the stronger growing kinds; both grafts and cuttings should be kept in a close-housed atmosphere while the

process of rooting and junction of the grafts is taking place.

A number of the old Chinese varieties have proved hardy as far north as Philadelphia, when planted out in a well sheltered and moderately moist situation. South of Virginia, most all the kinds will do well planted in the open air, if a suitable locality is selected.

Encourage the Achimenes, Tydeas, Gesnerias, Gloxinias, Amaryllis, Caladiums, Lilliums, &c., into growth, so that they may be in good condition to adorn the conservatory when the woody plants are removed to the open air during the summer. The Achimenes and Tydeas succeed admirably when planted in both wire or rustic baskets, when suspended in a humid atmosphere.

It will become necessary as the season progresses to re-arrange the plants in the greenhouse at least every ten days, turning such around as have grown toward the light, so that a uniform habit may be maintained, and exchanging those whose flowers have decayed for such as are coming into bloom, observing, as a general rule for arrangement, that which we laid down in February.

Fuchsias and Geraniums, grown from cuttings, and wanted as specimen plants, should be kept in a growing state by frequent shifts, giving them a rich compost, taking care when the plants are young to pinch in and train the young shoots regularly, so that ultimately you may have plants with fine symmetrical heads.

Never tire in putting in cuttings of plants; if you fail once, try again, in order to discover the cause of failure, so that next time you make the effort the cause of failure may be avoided. Don't give up in despair. Perseverance will lead to success.

With regard to the raising of plants from seed of your own saving, we advise sowing a portion as soon as they are collected. Many failures arise from keeping seeds too long or too dry. The seeds of all liliaceous plants ought to be sown as soon as they ripen, and water given in moderation until the young plants make their appearance.

Flower Garden and Pleasure Grounds.

Presuming that in most localities our instructions contained in the February number, in regard to the pruning of shrubs, &c., &c., have been attended to, the subject of planting now becomes seasonable. In the selection of both ornamental trees and shrubs, let your choice run on such as are young and healthy, and have been once or twice transplanted in the nursery. These will in a few years far surpass in size and beauty such as are large and have stood long in one place, or have been taken from the woods. As in the taking up of such, some of the main roots must necessarily be mutilated, this will cause the necessity of shortening back many of the branches, so as to keep up a proper balance between them. Proper care should be taken in digging the holes in which to plant, making them so wide that all the roots can be laid out horizontally their full length, shaking the tree gently as the process of filling up is done, so that the earth may pass freely and closely around the roots; then finish by a moderate tread with the foot. Our long experience induces us to recommend shallow planting, and then mulching the surface for the first year or two with a thin layer of grass, straw, or rough stable manure. More than one-third of all the trees sent out from nurseries are killed by planting too deep, or by neglecting to water and apply a mulching the first year after their setting out. We are no advocate of staking trees, except so far as it is necessary to keep them steady until the roots have securely taken hold of the ground. They, like animals, must have exercise, only in a different way.

In the latitude of Maryland and Virginia, we consider the month of May the best time to plant Evergreens; farther south this should be attended to sooner. The roots of no Evergreens ought to be exposed for any length of time to the action of the sun or drying winds, as the subjection of them to such treatment will prove more or less fatal.

When necessary, multiplication by division of the roots of such hardy herbaceous plants as *Pæonias*, *Phloxes*, *Dahlias*, *Iris*, *Delphiniums*, and other genera of similar character, can now be performed with safety. The work may be done with a knife, spade, or sharp trowel, observing always that each section you make has got a terminal bud or leaf-crown to it.

Sow under glass, in light rich earth, such seeds of perennial and annual plants as you desire to put out in the open air in May; and as soon as the plants are large enough to handle, it is a good plan to transplant them once before their final removal to where they are to bloom.

All flower borders and beds should be spaded over, and if the ground is poor, a dressing of short manure or vegetable compost may be applied, incorporating it well with the soil.

Everything about the pleasure grounds ought now be made to appear tidy, by removing all dead branches, decayed leaves, and other offensive material. Should the grass on the lawn have become exhausted by being killed by the sun or drawn out by frosts, refresh it by a good top-dressing of wood ashes and rich friable earth; over this sow a mixture of white clover, red top and perennial English rye glass, finishing by raking it lightly in; then roll the whole well down. It has often been told us, that a fine, close velvety lawn cannot be had in this country, like that to be found in England, but such a statement does not hold good, for we have seen in Maryland acres of as beautiful a grass lawn as is to be met with in any country; but this can only be obtained, by having the land in good condition before seeding down; then afterwards not permitting the grass to get bare at the bottom, by going over it with the scythe or mowing machine every two or three weeks.

W. D. B.

The Poultry Yard.

Turkey Pens and Feed.

By a Lady Friend, for the American Farmer.

It is a mistaken idea to bring out young turkeys earlier than the last of May. The cold rains are then over, the weather settled and warm, and the young fowls will then grow rapidly. It is the usual practice to pen up the mother turkeys and allow the young to run out. Make a pen longer than wide; use boards eighteen inches wide and long as convenient. Use cedar posts or studding three feet high; nail the boards close to the ground; fill up to top of posts with lathes, nailed two inches apart. In one end make a door to fasten close at night. Nail a clamp to each end for convenience in lifting the pen to a fresh place every week. Set it on a level space, and fill up any gap near the ground. In one corner of the pen set a dry goods box, not less than eighteen inches square. Board up the open end, and make a door large enough for the mother turkey to enter. Place the box on one side, to give a floor, on which keep clean sand. Close carefully at night, as minks are fond of young turkeys. Bore large holes near the top of the box to give light and air. Keep the turkeys in this pen for ten days; after that time they are strong enough to bear four or six hours exercise outside daily when fair weather. When three weeks old, they are able to bear the tramp of a long hot day.

For the first two weeks never allow the young turkeys to eat cornmeal. Soak scraps of bread in milk, and feed three times per day. A few screenings make a healthy and welcome variety. The mother turkey is very ravenous, and unmindful of her young when she is hungry. Give her cornmeal outside the pen; give it to her before giving the dainty mess to the young ones. Scatter bits of charcoal, and give clear, fresh water frequently. Shift the pen to a clean, grassy place. They will return to their home every evening, but it is best to drive them gently up early every evening. When they show a desire to roost higher, train them to their place in the poultry-yard.

POULTRY ASSOCIATION.—It is suggested that, in view of the very great increase in the interest in and profit of poultry, that an association of amateurs and poultry-raisers be formed in Baltimore, with the view of holding exhibitions of the superior varieties of fowls. We think that it could be made extremely successful, and that the number of fine birds which could be produced on exhibition would command an immense concourse to witness the show.

What Shall We Do?—The Culture of a new Staple recommended.

By T. L. HENLY, of Gordonsville, Va.

Editors "American Farmer:"

I trust it will not be thought presuming on my part if I endeavor to show the people of Virginia one way at any rate of solving the above problem, and I assert with confidence that if my proposition is carried out, every acre of land upon which the experiment is tried, will realize, with hardly any exception, double what the owner would probably sell it for at the present moment, and in many instances five times that amount, *i. e.*, if he will turn his attention to flax growing, in the place of raising the usual crops of corn and tobacco, as has hitherto been done to such an extent in this country. In order to enable him to do this, I propose, if you will allow me, publishing full particulars in your paper of how to manage this crop; one far easier to raise than tobacco, not more difficult than corn, and far less risky than an oat or wheat crop. But first let me call the attention of your readers to one or two statistics I furnished to the "Richmond Dispatch," which may not probably have been brought before their notice. Some years ago a Flax Association was formed in Wiltshire, (England) under the presidency of the Rt. Honorable T. H. Sotheron Estcourt, for the purpose of encouraging the growth of flax in that neighborhood, and at the end of the first season the following results were obtained: Upon land that had been broken up three years before, and cropped with potatoes and wheat, Mr. Estcourt realized a net profit of £18. 8. 6 per acre (over 90 dollars.) That land I know well, and it is as much like the gray soil I see about here, and so despised by many of your countrymen, as one pea is like another. Other members of the association were, if not equally successful, at any rate perfectly satisfied with what they had accomplished; but the business died away in spite of all, from want of a proper knowledge of how to manage it without taking so much trouble, and from that singularly cautious spirit which animates nine-tenths of the English farmers, whereby they cannot be persuaded to try any new industry, but are satisfied, and much prefer, to go on in the "good old ways."

Let us now see what prospect there is of a sale for flax and flaxseed (linseed), if raised in this country. With regard to the fibre, Messrs. Noble, George Yard, Lombard street, London, wrote me as follows: "We could take 30,000 additional tons annually without materially affecting the price." This quantity represents the produce of about 120,000 acres. Touching the seed, Messrs. Walter & Smith, of Hull, wrote: "The imports of linseed have ranged from 1,000,000 to 1,600,000 quarters (a quarter is eight bushels) annually, and the importation might be doubled without any great reduction of price, as at a low rate the

consumption would be all but illimitable." This quantity represents the produce (at sixteen bushels to the acre, which is about an average crop, although twenty-four bushels *have* been grown in many cases) of 800,000 acres. So much, then, as to the demand for the article, and the profit to be realized thereon. Let us now see how to set about it. Note first, that the richer the land (naturally) not with manure, unless applied last season, the better, although good crops can be obtained from almost any description of soil, provided it is not low, swampy land, where the water cannot drain off. Remember, flax likes a cool, moist situation, such as along the banks of rivers, and such like, provided the water will drain away readily from the roots, which some affirm run down two feet into the earth, but stagnant water will destroy it. Again, I have grown it with good results upon the tops of our chalk hills, where the soil was not three inches deep. So let no land be despised. The first thing necessary is a deep ploughing, and this should be done in the fall. When this is the case, nothing more is required than to harrow the ground well, immediately the spring has fairly commenced, so as to reduce it to as fine a tilth as possible, and then sow the seed broadcast, or by means of a hand sower, at the rate of two and a half bushels to the acre. A *very light* stroke of the harrow afterwards, just sufficient to bury the seed about an inch deep, is all that is required until harvest.

[The press of matter in this No. compels us to leave for our next the conclusion of Mr. Henly's interesting article, which is already in type. He therein estimates that the profits of an acre of flax from the seed alone, without considering the fibre, amount to $23.50, and states that a small quantity of the seed—enough for experiments—can be had for this season's sowing of a person in this city, whose address may be had by application to us.—*Eds. Amer. Far.*]

BALTIMORE MARKETS, Mar. 21.

Breadstuffs—Flour.—Market quiet. Prices steady under limited offerings Quotations as follows: Howard St. Super Flour, $6 50a$7; do. common to choice Extra, $7.25a$8; do. Family, $8.25a9 50; City Mills Super, $6.50 a$7; do. Standard Extra, $7.25a7.50; do. Rio Brands, $8.00a8.25; Ohio and Indiana Super, $6 50a$7; do. common to choice Extra, $7.25a$8; do. Family, $8 25a $9; City Fancy Brands range at $10.50a$11; Fine Flour, $5.25a5.75. Rye Flour, $5a5.50. Corn Meal, City Mills, $3.60.

Grain.—Wheat firm, but market quiet. We quote Penna. red at 172 cts.; Southern red, 174a176 c.; Michigan white, 190 c. Corn more active and firmer. Southern white, 60a64 cts.; yellow, 62 cts.: Western, 62a63 c. Oats dull. Sales of Southern at 54a55 cts.

Cotton.—Market firm. Sales good ordinary at 20¾a 21 cts.; low middling at 21¾a21¾ cts.; middling at 22¼a22¾ cts.

Rice.—Carolina firm at 8¾a9 cts. for good to prime.

Seed.—Considerable Clover Seed selling—prices looking up. We quote it at $6.50a6.75; Timothy, $3.25a3.50; Orchard Grass, $2.75.

Tobacco.—Receipts have increased considerably since last report. It has all been sold as fast as inspected.—Prices very firm at about following quotations: Maryl'd frosted, $6.00a$6.50; sound to good common, $7a$8 50; middling, $9 00a$10.50; good to fine brown, $11.00 to $13 00; fancy, $14.00 to $25.00. Upper Country, $5 00 to $30.00; ground leaves, new, $6.00a9 00. Virginia, common to good lugs, $6.00a7.00; common to medium leaf, $7.50a9.00; good to fine do., $9 50a10.50; selections, shipping, $11.50a13.50; primings, $5a5.50; stems, good to fine, $4.00a4.50.

Live Stock.—Beef Cattle, best on sale, 6a7¼c.; generally rated first quality, 5¾a6c.; fair quality, 4¾a5¼c. Hogs, 6½a7¼c. net; prices barely maintained. Receipts quite equal the demand. Sheep, 6 to 9 cts. Demand good for good ones; common ones are dull.

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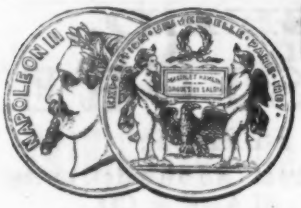

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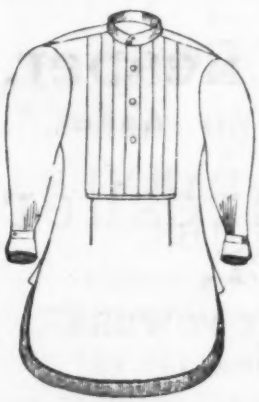

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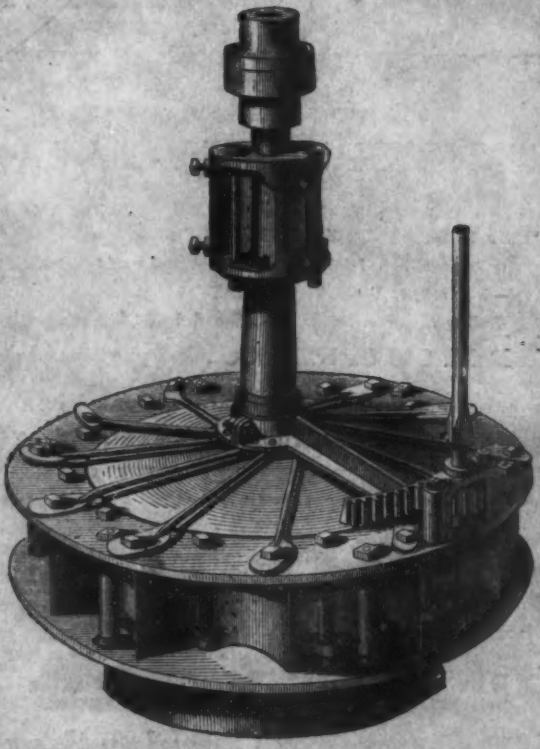

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